

# PROTECTING AND RESTORING AMERICA'S GREAT WATERS, PART I: COASTS AND ESTUARIES

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(110-148)

## HEARING BEFORE THE SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT OF THE COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE HOUSE OF REPRESENTATIVES ONE HUNDRED TENTH CONGRESS SECOND SESSION

JUNE 26, 2008

Printed for the use of the  
Committee on Transportation and Infrastructure



U.S. GOVERNMENT PRINTING OFFICE

43-309 PDF

WASHINGTON : 2008

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June 26, 2008

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**SUMMARY OF SUBJECT MATTER**

**TO:** Members of the Subcommittee on Water Resources and Environment  
**FROM:** Subcommittee on Water Resources and Environment Staff  
**SUBJECT:** Hearing on Protecting and Restoring America's Great Waters, Part I: Coasts and Estuaries

**PURPOSE OF HEARING**

On Thursday, June 26, 2008, at 2:00 p.m., in Room 2167 Rayburn House Office Building, the Subcommittee on Water Resources and Environment will receive testimony from representatives from the U.S. Environmental Protection Agency, the National Oceanographic and Atmospheric Administration, the Puget Sound Partnership, the San Francisco Public Utility Commission, the Association of National Estuary Programs, and other stakeholder organizations on the protection and restoration of the nation's coasts and estuaries.

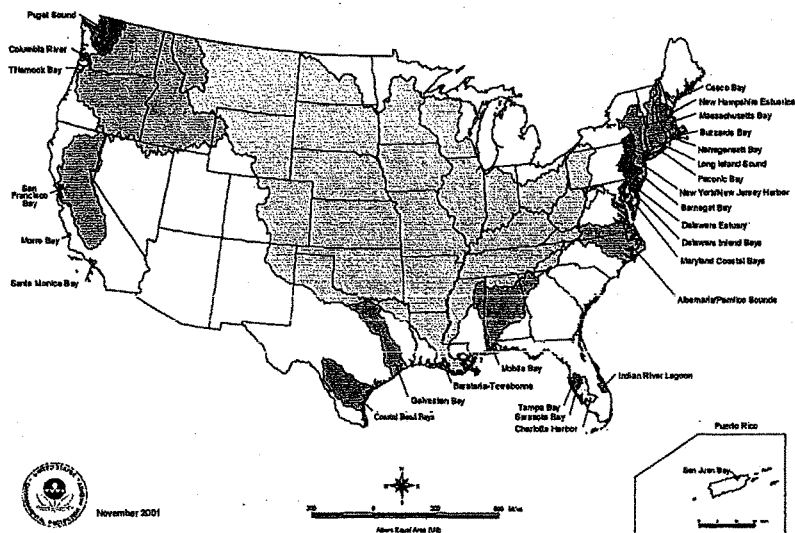
**BACKGROUND**

This memorandum summarizes the state of the nation's coasts and estuaries, and federal programs to protect and restore them. It then focuses in more detail on efforts to protect the Puget Sound.

**Introduction – EPA's NEP Program**

In 1987, Congress established the National Estuary Program, as an amendment to the Clean Water Act (section 320), to promote comprehensive planning efforts to help protect nationally significant estuaries in the United States that are deemed to be threatened by pollution, development, or overuse. There are currently 28 National Estuary Program (NEP) estuaries in the program. The United States Environmental Protection Agency (EPA) implements this program, and oversees NEP activities in each of the 28 estuaries.

### National Estuary Program Watersheds



#### Estuaries and Coasts

Estuaries are bodies of water that receive both inflows from rivers and tidal inflows from the ocean. They are, therefore, transition zones between fresh water from rivers and saline water from the ocean.

The mixing of fresh and salt water provides a unique environment that supports diverse habitats for a wide variety of living resources, including plants, fish, and wildlife. Many fish and shellfish species depend on the sheltered habitat provided by estuaries, as well as the mix of saline and fresh water. Estuaries are often used as places for these species to spawn, and for their young to grow and develop. These areas also serve as habitat and breeding areas for hundreds of species of birds and other wildlife, including marine mammals.

The rich array of resources found in estuarine environments provides a foundation for the economy of many coastal areas. Tourism, fisheries, and other coastal commercial activities depend on the resources provided by estuaries. Most commercially and recreationally important fish and shellfish species, such as striped bass, shad, salmon, sturgeon, shrimp, crabs, lobster, clams, oysters, mussels, and bay scallops, depend on estuaries for stages of their life cycles. According to the National Oceanographic and Atmospheric Administration (NOAA) and the National Research Council (NRC), estuaries provide habitat for 75% of the U.S. commercial fish catch and 80-90% of

the recreational fish catch. Estuaries also provide cultural and recreational opportunities that include boating, fishing, swimming, surfing, and bird watching.

The coastal areas surrounding estuaries are amongst the most populated areas in the nation. Collectively, the nation's coastal counties account for only 13% of the total contiguous land area of the United States. However, 43% of the population lives in these coastal areas.<sup>1</sup>

Estuaries and coastal areas are central to the nation's economy. According to economic analyses performed by Restore America's Estuaries, coastal counties account for 40% of the employment and 49% of the economic output for the nation. The University of California and the Ocean Foundation have determined that beach-going produces between \$6 and \$30 billion, recreational fishing between \$10 and \$26 billion, and coastal wildlife viewing between \$4.9 and 49 billion per year. Louisiana State University's Center for Energy Studies reports that 30% of U.S. crude oil production, 20% of U.S. natural gas production, and 45% of U.S. petroleum refining capacity lies within a few miles of the Gulf of Mexico coastal zone. The Woods Hole Oceanographic Institute's Marine Policy Center reports that U.S. ports handled over \$800 billion in trade in 2003. The University of Maryland has found that a significant proportion of the ten billion pounds of commercial fish landings in 2004 are dependent on estuaries. This was worth over \$3.8 billion, unprocessed. Finally, a 2004 analysis from Penn State found that beachfront proximity increased the value of a property by 207%, compared to a similar property two blocks away. A bayfront location resulted in a 73% increase in value, compared to a similar property two blocks away.

#### State of the Nation's Coasts and Estuaries

EPA assesses the state of the nation's coastal resources through its *National Coastal Condition Reports* (NCCR). The NCCRs rely on a series of indicators to measure coastal resource health using National Coastal Assessment (NCA) monitoring data.

Indicators used in each of the NCCRs to determine coastal resource health include indexes for water quality, sediment quality, benthic species, fish tissue contaminants, and coastal habitat. The water quality index is based on five water quality component indicators: dissolved inorganic nitrogen, dissolved inorganic phosphorus, chlorophyll, water clarity, and dissolved oxygen. The sediment quality index is based on three sediment quality component indicators: sediment toxicity, sediment contaminants, and sediment total organic carbon. The benthic index indicates the condition of the benthic community (organisms living in estuarine sediment) and can include measures of benthic community diversity, the presence and abundance of pollution-tolerant species, and the presence and abundance of pollution-sensitive species. The fish tissue contaminants index indicates the level of chemical contamination in target fish and/or shellfish species. The coastal habitat index is based on the average of the mean long-term, decadal wetland loss (1780-1990) and the most recent decadal wetland loss rate (1990-2000). The NCA rating scores are developed for each of these indicator indexes on a 5-point scale.

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<sup>1</sup> These figures are based on only marine coastal counties. Counties bordering the Great Lakes were considered non-coastal counties. Including those counties would increase the percentage of coastal counties that make up the total land area of the U.S., but would likely boost the total percentage of the population that lives along coastal areas.



NCCR I, released in 2001, reported that the nation's coastal resources were in poor to fair condition.<sup>2</sup> NCCR II, released in 2004, showed a slight improvement in the health of national coastal resources and rated them in fair condition.<sup>3</sup> EPA's draft NCCR III<sup>4</sup> reports an overall rating of fair for the nation's coastal resources.

The draft NCCR III also rates the coastal waters of geographic regions. Across all indicators, the Northeast Coast,<sup>5</sup> the Gulf Coast,<sup>6</sup> and the Great Lakes<sup>7</sup> regions are rated fair to poor; the Southeast Coast<sup>8</sup> and West Coast regions<sup>9</sup> are rated fair; Hawaii and south-central Alaska are rated good; and Puerto Rico is rated poor.

The draft NCCR III provides regional breakdowns by coastal resource health indicators.

**Water Quality Index:** Nationally, the water quality index for coastal waters is rated good to fair. The percent of coastal area rated poor for water quality is 0% in south-central Alaska to 14% in the Gulf Coast region. Puerto Rico and the Gulf Coast region are rated poor; south-central Alaska is rated good; Hawaii is rated fair to good; and all other regions are rated fair.

**Sediment Quality Index:** Nationally, the sediment quality index is rated fair. Regionally, the Gulf Coast, Great Lakes, and Puerto Rico are rated poor; the West and Northeast Coasts are rated fair to poor; the Southeast Coast is rated fair; Hawaii is rated good to fair; and the south-central Alaska coast is rated good.

**Benthic Index:**<sup>10</sup> Nationally, the benthic index is rated fair to poor. Poor benthic conditions are observed in the Gulf and Northeast Coast, and Puerto Rico regions. The Southeast and West Coast regions are rated good.

**Coastal Habitat Index:**<sup>11</sup> Nationally, the coastal habitat index is rated poor. The Northeast Coast region is rated fair to good; the Southeast Coast region is rated fair; the Great Lakes region is rated poor to fair; and the Gulf and West Coast regions are rated poor.

**Fish Tissue Contaminants Index:**<sup>12</sup> Nationally, the fish tissue contaminants index for coastal waters is rated fair. Eighteen percent of the stations where fish were caught rated poor for this indicator. Regionally, the Gulf Coast region and south-central Alaska rated good; the Southeast

<sup>2</sup> Data collected from 1990-1996, and represented 70% of the nation's coterminous coastal waters.

<sup>3</sup> Data collected from 1997-2000, and were representative of 100% of the coastal waters of the 48 coterminous states, as well as Puerto Rico.

<sup>4</sup> Reflects data collected from 2001-2002.

<sup>5</sup> Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New Jersey, Delaware, Maryland, Virginia

<sup>6</sup> Texas, Louisiana, Mississippi, Alabama, Florida (Gulf coast)

<sup>7</sup> Minnesota, Wisconsin, Illinois, Indiana, Michigan, Ohio, Pennsylvania, New York

<sup>8</sup> North Carolina, South Carolina, Georgia, Florida (Atlantic coast)

<sup>9</sup> California, Oregon, Washington

<sup>10</sup> Data unavailable for south-central Alaska or Hawaii.

<sup>11</sup> Updated coastal habitat index results were unavailable for the release of the Draft NCCR III. Results used are from the NCCR II. Results and ratings for south-central Alaska, Hawaii, and Puerto Rico were not reported.

<sup>12</sup> Fish tissue contaminants index results were not reported for Puerto Rico or Hawaii (or within the Gulf Coast and Southeast Coast regions, for Florida or Louisiana.)

Coast region rated fair to good; the Great Lakes region rated fair; and the Northeast and West Coast regions rated poor.

**State of National Estuary Program Estuaries:** EPA's 2006 National Estuary Program Coastal Condition Report reports on the health of coastal resources of those estuaries in EPA's NEP. Based on a five-point scale (1 poor, 5 good), EPA reports that the overall condition of the NEP estuaries is fair. The table below provides the numeric ratings of NEPs by region across the coastal resource indicators discussed above.<sup>13</sup>

**Regional and National Rating Scores for Indices of Estuarine Conditions and Overall Condition for the Nation's NEP Estuaries<sup>14 15</sup>**

Index	Northeast Coast	Southeast Coast	Gulf Coast	West Coast	Puerto Rico	United States
Water Quality Index	3	5	3	3	3	3.6
Sediment Quality Index	1	4	2	1	1	2.1
Benthic Index	1	3	2	5	1	2.7
Fish Tissue Contaminant Index	1	4	4	1	1	2.6
OVERALL CONDITION	1.5	4.0	2.75	2.5	1.5	2.7

**Impairment Drivers:** While each estuary and coastal area is unique, EPA has identified a set of environmental problems and challenges that are common to many estuaries and regions.

- **Nutrient Overloading:** While nutrients such as nitrogen and phosphorus are necessary for the growth of plants and animals, in excess they can contribute to algal blooms, low dissolved oxygen levels, and fish disease. Excess nutrients stimulate the growth of algae. After the algae die, the decomposition process uses the dissolved oxygen found in the water, resulting in low oxygen zones. Excessive algae can also block light from penetrating into the water. Sources of excessive nutrients include point and non-point sources such as sewage treatment plant discharges, stormwater runoff from lawns and agricultural lands, faulty or leaking septic systems, sediment in runoff, animal wastes, atmospheric deposition originating from power plants or vehicles, and groundwater discharges.
- **Pathogens:** Disease carrying pathogens such as viruses, bacteria and parasites can harm fish, shellfish, the consumers of fish and shellfish, and human users of the water such as swimmers, surfers, or waders. Sources of pathogens include urban and agricultural runoff, boat and marina waste, faulty or leaky septic systems, sewage treatment plant discharges,

<sup>13</sup> The 2006 National Estuary Program Coastal Condition Report does not include a Coastal Habitat Index indicator.

<sup>14</sup> Rating scores are based on a 5-point system, where a score of less than 2.0 is rated poor; 2.0 to less than 2.3 is rated fair to poor; 2.3 to 3.7 is rated fair; greater than 3.7 to 4.0 is rated good to fair; and greater than 4 is rated good.

<sup>15</sup> Source: EPA National Estuary Program Coastal Condition Report (2006), p. ES.7

combined sewer overflows, recreational vehicles or campers, illegal sewer connections, and waste from pets or wildlife.

- *Toxic Chemicals:* Toxic substances such as metals, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), heavy metals, and pesticides can impact the health of humans, fish, shellfish, and benthic organisms. Consumption advisories and the closure of fisheries and shellfisheries may occur as a result of dangerous levels of toxic substance in estuarine and coastal areas. These substances enter waterways through stormdrains; industrial discharges and runoff from lawns, streets and farmlands; sewage treatment plants; and from atmospheric deposition. Many toxic contaminants are also found in sediments and are resuspended into the environment by dredging and boating activities.
- *Habitat Loss & Degradation:* The health and biodiversity of estuarine areas is largely dependent on the maintenance of high-quality estuarine habitat. Habitat provides essential food, cover, migratory corridors, and breeding and nursery areas for a broad array of coastal and marine organisms. In addition, these habitats also perform other important functions such as water quality and flood protection, and water storage. Threats to habitat include conversion of open land and forest for commercial development and agriculture, forestry, highway construction, marinas, diking, dredging and filling, damming, and bulkheading. Wetland loss and degradation caused by dredging and filling have limited the amount of habitat available to support healthy populations of wildlife and marine organisms. In addition, habitat loss can result in increased loadings of sediment, nutrients, and other stressors into estuaries.
- *Introduced Species:* Non-native species that are introduced into an estuarine environment can alter the estuarine ecosystem balance through over-competition and predation of native species. The overpopulation of some introduced herbivorous species has resulted in overgrazing of wetland vegetation and the resultant degradation and loss of marsh in some estuaries. Sources of non-native species into estuaries include ship ballast discharges, marine aquaculture and the aquarium trade.
- *Alteration of Natural Flow Regimes:* Alteration of the natural flow of fresh water into estuaries as a result of human water resource decisions can adversely impact estuarine water quality and the distribution of living estuarine resources. Too much or too little freshwater can adversely affect fish spawning, shellfish survival, bird nesting, seed propagation, and other seasonal activities of fish and wildlife. In addition to changing salinity levels, inflow provides nutrients and sediments that affect the overall productivity of the estuary.
- *Declines in Living Estuarine Resources:* The decline of living estuarine resources, including sea grasses, fish, shellfish, and benthic organisms, can have ripple effects on those species that depend on those species for food or habitat. For example, some migratory bird species consume the eggs of horseshoe crabs. Declining numbers of horseshoe crabs in the Delaware Bay, however, are adversely affecting the food source for the second largest stop-over population of migratory birds in North America. In other words, estuarine stressors that negatively impact particular keystone species in an estuary can have adverse cascading effects farther up the food chain.

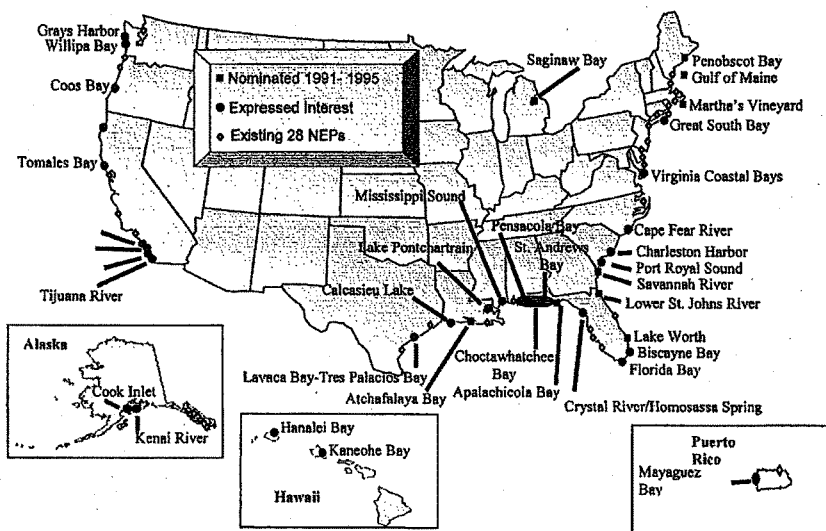
- *Climate Change:* Estuaries are amongst the ecosystem types most likely to be impacted by climate change. Adverse ecosystem impacts could be caused by sea level changes, precipitation increases or decreases (both around the immediate estuary, and on upstream rivers and tributaries), and ocean temperature changes. These changes could exacerbate the effects of other impairment drivers.

#### Federal Programs to Protect and Restore Coasts and Estuaries

**EPA National Estuary Program:** EPA's NEP is a stakeholder-driven, collaborative process to address water quality problems, and to target habitat restoration. The NEPs conduct long-term planning and management activities to address the complex factors that contribute to the degradation of estuaries.

Currently, 28 estuaries are included within the program. (See figure on Page 2.) To be included within the program an estuary must be nominated by a state governor in response to an EPA call for nominations. If an estuary faces significant risks to its ecological integrity, contributes substantially to its commercial activities, would benefit greatly from comprehensive planning and management, amongst other criteria, EPA may include it in the program. While no new estuaries have been included in the program since 1995, EPA reports that numerous states, localities, and non-governmental organizations have expressed interest in 38 additional estuaries being included within the NEP.

Estuaries That Have Expressed Interest in Joining the NEP



Since its inception, policy analysts and policy-makers have described the NEP as one of the leading examples of collaborative institutions designed to resolve conflict and build cooperation at the watershed level. Unlike many other EPA programs that use traditional regulatory tools to achieve environmental and policy goals, the NEP uses a framework that relies on stakeholder collaboration to achieve estuarine protection and restoration goals. It is important to understand, however, that the NEP does not replace ongoing EPA and state regulatory activities in the NEP estuaries – but works instead in parallel with them.

The four framework cornerstones of the NEP are to:

- Focus on watersheds;
- Integrate science into the decision-making process;
- Foster collaborative problem-solving; and
- Involve the public.

The NEP fulfills these cornerstone goals through the use of a structure that revolves around stakeholder involvement and interaction. Once an estuary is accepted by EPA into the NEP, a Management Conference is convened. This is traditionally a 3- to 5-year process which typically includes local governments, regulated and/or affected businesses and industries, public and private institutions like universities, nongovernmental organizations, the general public, and representatives from EPA, other federal agencies, state governments, and interstate and regional agencies.

The first stage of the NEP process is the convening of an estuary Management Conference. This Management Conference creates the framework upon which eventual estuary restoration and protection will take place. The Management Conference defines programs goals, identifies the causes of the estuary's environmental problems, and designs actions to protect and restore habitats and living resources. The essence of the Management Conference is that it aims to convene the primary stakeholders involved in the watershed. These groups, organizations, and institutions seek to reach consensus on problem identification and the development of solutions.

The culmination of the Management Conference is the Comprehensive Conservation and Management Plan (CCMP). The CCMP is the implementation 'blueprint' for protecting and restoring the estuary. The CCMP identifies discrete activities that will be engaged in by particular parties to address priority problems. Developed through the Management Conference, the activities prescribed through the CCMP are based in consensus and will often involve coordination and collaboration between different stakeholder entities. EPA must approve the CCMP.

In addition to being a Management Conference participant, EPA provides the Management Conference and the NEP estuary program with financial and technical assistance. Some of this funding goes towards setting up the individual estuary NEP program office. This usually consists of a small staff that is housed in, and is an entity of, a local government agency, university, or nongovernmental organization. Because the local NEP program can be located in a number of different types of organizations, the program structure and character of each of the 28 local NEP programs is unique. For the most part, then, none of the staff in any of the 28 NEP estuaries are EPA employees. They are usually either employed by nongovernmental organizations or state or local government entities (but paid through CWA Section 320 (NEP) funding.)

The NEP budget was \$11,711,000 in FY 2007 and \$16,569,000 in FY 2008. The President has proposed \$7,432,000 for FY 2009. This resulted in \$418,000 per individual NEP in FY 2007 and \$592,000 in FY 2008. The President's proposed budget for FY 2009 would result in \$265,000 for each NEP in FY 2009. The Puget Sound NEP received an additional \$1,000,000 in FY 2007 and \$19,688,000 in FY 2008. The Long Island Sound NEP received an additional \$1,354,000 in FY 2007 and \$4,922,000 in FY 2008. For FY 2009 the President has proposed \$1,000,000 for the Puget Sound NEP and \$467,000 for the Long Island Sound NEP.

NEPs, by design, are intended to access funding from sources other than solely through EPA's direct funding. This aim is, in part, intended to be realized through the ostensible buy-in of non-federal partners (state and local governments, non-governmental organizations) and achieved through the collaborative process. The CCMP should include a finance plan. NEPs have attracted funding from a variety of sources and partnerships including the Clean Water State Revolving Fund program stormwater utility fees, municipal bond funding, fines and settlements, tax abatements and incentives, and sales fees. According to EPA, between 2003 and 2007, NEPs received \$85 million in Clean Water Act Section 320 (NEP) funding and through earmarks. However, these NEPs were able to leverage nearly \$1.3 billion in funding from non-EPA sources. This is a funding ratio non-EPA to EPA funds of 15.5 to 1.

As a funding entity EPA exercises oversight authority over the local NEP programs, as well as providing technical (e.g., finance planning, smart growth, monitoring and assessment) and programmatic assistance (policy development). For example, individual NEPs are required to periodically monitor the effectiveness of their management activities to address estuary-specific priority actions (as established through the Management Conference, and as defined in their respective CCMPs.) EPA is also involved with conducting program evaluations of NEPs, and transferring lessons learned. The EPA NEP office is located within the Office of Wetlands, Oceans, and Watersheds in the Office of Water.

On the whole, the NEP program has resulted in somewhat better estuarine conditions for NEP estuaries than for non-NEP estuaries. On a national scale, collectively the NEP estuaries score slightly higher than non-NEP estuaries for the water quality and benthic indices, are comparable for the fish tissue contamination index, and are slightly lower for the sediment quality index.

**National Rating Scores by Index for All U.S. Estuaries (NCCR) and for NEP Estuaries<sup>16 17</sup>**

	Water Quality Index	Sediment Quality Index	Benthic Index	Fish Tissue Contaminant Index	OVERALL
NEP Estuaries	3.6	2.1	2.7	2.6	2.7
All U.S. Estuaries	3.0	2.6	2.2	2.6	2.6

<sup>16</sup> Rating scores are based on a 5-point system, where a score of less than 2.0 is rated poor; 2.0 to less than 2.3 is rated fair to poor; 2.3 to 3.7 is rated fair; greater than 3.7 to 4.0 is rated good to fair; and greater than 4 is rated good

<sup>17</sup> Source: EPA National Estuary Program Coastal Condition Report (2006), p. ES.9

While some data and analysis issues should warrant caution in directly comparing the above results, it provides some information that the collaborative NEP approach can, at a minimum, provide an alternative to a sole reliance on traditional regulatory, or command-control, mechanisms.

In addition to the comparative results, above, EPA reports that the NEPs have protected and restored over 102,000 acres of estuarine habitat<sup>18</sup> since 2007, and one million acres since 2000.

On June 19, 2008 EPA announced a new pilot program for NEP estuaries, entitled 'Climate Ready Estuaries.' According to EPA, each NEP estuary in the program will receive technical assistance to assess and reduce their vulnerability to climate change. The programs will apply analyses and tools to help them make decisions to protect their communities and build knowledge to help other communities adapt to a changing climate. Communities with plans approved by their local stakeholders will be designated as 'Climate Ready Estuaries' by EPA.

The six 'Climate Ready Estuary' pilots include the New Hampshire Estuaries Project, Massachusetts Bays Estuary Program, Partnership for Delaware Bay, Albemarle-Pamlico Sounds National Estuary Program, Charlotte Harbor Estuary Program and San Francisco Estuary Project.

**NOAA Community-based Restoration Program:** The National Oceanographic and Atmospheric Administration's (NOAA) Community-based Restoration Program (CRP) is located within the NOAA Fisheries Service's Restoration Center. It is a grant program that provides funding to national, regional, and local organizations to restore fish habitat and coastal resources. In addition to providing grant funding, the CRP allows for the provision of NOAA technical advice on restoration techniques, environmental compliance, and scientific monitoring. Similar to EPA's NEP, the CRP is designed to build partnerships to identify local priorities, and to promote community involvement and stewardship of local projects. The CRP began in 1996 and, as of September, 2007, had funded more than 1,200 restoration projects in 26 states, Canada, the Caribbean, and the Pacific Islands.

The CRP received \$13 million in FY 2008. Individual project grants are used by groups to support habitat restoration, marine debris removal, and river restoration projects to remove dams and other barriers. Awards for individual projects range from \$30,000 to \$500,000.

National and regional partnership grants allow groups to establish multi-year cooperative agreements with NOAA. Grants are provided annually to support multiple habitat restoration projects across a geographic area. The partner organization solicits proposals from local groups and selects projects jointly with NOAA. NOAA's funding for partnership grants ranges from \$100,000 to nearly \$2 million.

**NOAA National Estuarine Research Reserve System:** NOAA's National Estuarine Research Reserve System (NERRS) is a network of protected areas established for research, water quality monitoring, education, and coastal stewardship. NERRS was established by the Coastal Zone Management Act of 1972. It is a partnership program between the NOAA and the coastal states, whereby NOAA provides funding, national guidance and technical assistance, but where the management and implementation is undertaken by a lead state agency or university, with input from

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<sup>18</sup> This includes wetlands, mangroves, barrier islands, beaches, dunes, riparian areas, in-stream areas, grasslands and uplands, and ponds.

local partners. Twenty-seven sites exist within NERRS. Some of these sites are co-located with, or nearby NEP estuaries.

The FY 2008 appropriations for NERRS operations was \$16.4 million. NERRS also received an additional \$7 million for the acquisition of land, and the construction of educational facilities and labs. On average, each NERRS site receives around \$500,000.

**NOAA Coastal and Estuarine Land Conservation Program:** NOAA's Coastal and Estuarine Land Conservation Program (CELCP)<sup>19</sup> was established in 2002 to protect coastal and estuarine lands considered important for their ecological, conservation, recreational, historical or aesthetic values. Through an application review process the program ranks proposed projects and provides state and local governments with matching funds to purchase significant coastal and estuarine lands, or conservation easements on such lands, from willing sellers.

The program received \$8 million in FY 2008. Between 2002 and 2007, CELCP distributed more than \$200 million to protect more than 35,000 acres of land in 26 states.

#### **Puget Sound Water Quality and Estuarine Resource Restoration and Protection**

The Puget Sound, located in the state of Washington, is an ecologically complex system that provides habitat for fish and wildlife, including Pacific salmon and orca whales. The Puget Sound is an estuary that covers 2,800 square miles of marine waters, with an average depth of 450 feet, and which encompasses 2,500 miles of shoreline.

Stressors on the Puget Sound include toxic contamination, habitat loss, shoreline hardening (to prevent erosion, and for development activities), and stormwater runoff. By 2020, the population in the Puget Sound basin is expected to be more than 5 million people. This is a 30% increase in population over 2000 levels. Population increases are anticipated to add to exacerbate current stresses on the Puget Sound estuary.

Estuarine impairments have impacted a number of species in the Puget Sound. Amongst the primary concerns are nine Endangered Species Act listings, including salmon species, and shellfish bed closures. Based on NCCR coastal resource health indicators, the Puget Sound rates, on average, in fair condition. In terms of specific indices, the Puget Sound received a rating of 3 (fair) for the water quality index; a rating of 1 (poor) for the sediment quality index; a rating of 5 (good) for the benthic index; and a rating of 3 (fair) for the fish tissue contaminant index.

The Puget Sound NEP program, the Puget Sound Partnership (PSP)<sup>20</sup>, entered the NEP in 1987. The PSP is a state entity. While the original CCMP was approved in 1991, in 2004 a watershed assessment showed that the estuary was still under considerable stress. That assessment showed an overall downward trend in the estuarine condition. Eight of 15 indicators of condition were rated fair, while four of the 15 were rated poor. Partially in response to these assessment findings, Washington Governor Christine Gregoire named a Blue Ribbon Commission to address Puget Sound impairments in December 2006. Recommendations from this Commission resulted in the creation of a new Management Conference, the establishment of new priorities for the Puget Sound

<sup>19</sup> Pronounced 'kelp.'

<sup>20</sup> Until May 2007, the Puget Sound NEP was called the Puget Sound Action Team.



NEP, and the creation of the PSP. The PSP is currently in the process of creating a CCMP (referred to in the PSP as the 'Action Agenda.')

Through the PSP, the state of Washington has eight priorities for the Puget Sound:

- Clean up contaminated sediments;
- Mitigate stormwater runoff impacts;
- Prevent toxic contamination;
- Prevent nutrient and pathogen pollution;
- Protect functioning near shore and freshwater habitats;
- Restore degraded near shore and freshwater habitats;
- Protect species diversity; and
- Adapt the Puget Sound efforts to climate change.

Partners in the PSP include federal agencies (EPA, NOAA, and the U.S. Fish and Wildlife Service), state agencies (Washington Departments of Ecology, Natural Resources, and Fish and Wildlife), counties (San Juan County Council, Clallum County Board of Commissioners, Skagit County Administrator, Kitsap County Board of Commissioners, King County Executive, Pierce County), tribal governments (Nisqually Tribe, Lummi Nation, Skokomish Tribe, Nooksack Indian Tribe), cities (Federal Way City Council), port districts (Port Angeles Port Commission), business interests (Master Builders Association of King and Snohomish Counties, Taylor Shellfish), environmental groups (The Nature Conservancy, People for Puget Sound), legislators and other organizations and institutions.

In addition to being a formal partner with the PSP, EPA through its Region 10 offices is involved in water quality protection activities in the Puget Sound. EPA Region 10 uses a mix of non-regulatory as well as traditional regulatory tools to protect water quality.



## HEARING ON PROTECTING AND RESTORING AMERICA'S GREAT WATERS PART I: COASTS AND ESTUARIES

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Thursday, June 26, 2008

HOUSE OF REPRESENTATIVES  
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE,  
SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT,  
*Washington, DC.*

The Subcommittee met, pursuant to call, at 2:00 p.m., in Room 2167, Rayburn House Office Building, the Honorable Eddie Bernice Johnson [Chairwoman of the Subcommittee] presiding.

Ms. JOHNSON. The Committee will come to order.

Good afternoon. In today's hearing we will hear testimony on the protection and restoration of our Nation's coasts and estuaries.

As many as you know, I represent a district in Texas, which is Dallas, and my district possesses neither coasts nor estuaries, so this will be news to me.

[Laughter.]

Ms. JOHNSON. It is my strong belief that it is important for this Subcommittee to hold hearings on these issues because the Nation's coasts and oceans provide a wealth of resources for the entire Country and among these areas nowhere is more valuable than estuaries.

Estuaries are bodies of water that receive both fresh water from rivers and salt water from the sea. This mix makes a unique environment that is extremely productive in terms of its ecosystem values. Estuaries are rich in plant life and coastal habitat and living species. The ecological productivity of these regions translates directly into economic productivity. Government studies have found that estuaries provide habitat for 75 percent of the U.S. commercial, and 80 to 90 percent of the recreational fishing catches.

The regions surrounding estuaries are both population and economic centers, and while the Nation's coastal counties make up only 13 percent of the land area in the lower 48 States, 43 percent of the population live in them. Similarly, coastal counties account for 40 percent of the employment and 49 percent of the economic output for the Nation.

Perhaps the central problem in the protection and restoration of estuaries is that they ultimately lie downstream of all. Everything that enters the smallest stream, tributary or headwater in a watershed eventually runs into a single outlet, impacting in some way all the biological elements of that ecosystem, and all of the commerce that revolves around the estuary.

Just two days ago we held a hearing on comprehensive watershed management and planning, and it should no doubt be clear that today's hearing dovetails with Tuesday's hearing very nicely. Only through holistic watershed management and planning—flood control, water quality protection, water supply, and navigation—will we achieve necessary coastal protection.

To do this properly, we cannot look to the Federal Government alone. Indeed, we should not necessarily look to the Federal Government as the lead. Instead, proper watershed management and estuarine protection must be a process that involves all levels of government and all manner of stakeholders.

This is not to say that the Federal Government does not have a role. Indeed, only through the active involvement of the Federal Government will we be able to restore and protect our coasts. Through traditional tools such as Federal water quality standards and robust compliance and enforcement activities—and also through the monitoring, policy development, and technical and financial support—the Federal Government has an important role to play. But I cannot emphasize enough that it cannot and should not play the role alone.

The Federal Government, right now, probably won't be playing much of a role at all with the money we have. However, the Federal Government, through the EPA and other agencies such as NOAA, has a number of interesting initiatives in which they have used non-traditional tools to try to achieve coastal habitat improvements.

In today's hearing, I look forward to hearing about these issues in more detail. I also look forward to hearing from Chairman Dicks, an outstanding leader here in the Congress from the State of Washington, on the need to protect one of the Nation's most important estuaries, the Puget Sound. When you mention the Puget Sound here, his name automatically comes to mind. It is imperative that resources be dedicated to protect this nationally significant water.

I am very pleased that we have Bill Ruckelshaus here to testify today on the importance of protecting the Puget Sound. As many of you know, Mr. Ruckelshaus has been instrumental in the protection of our environment. He was the first Administrator of EPA in the 1970s—and I remember his wife well; she was a person who worked with us on women's issues—and then returning again in 1983 to successfully resurrect EPA from the demoralized shell of an agency it had become during the early years of the Reagan administration. We can give him our heartfelt thanks for his important public service toward environmental and public health protections he has engaged in throughout his life, and that he continues to do today.

Now I will recognize Mr. Boozman, my partner on this Committee, from Arkansas.

Mr. BOOZMAN. Thank you, Madam Chair. I, like you, being from Arkansas, am not in a position to have estuaries there, but certainly understand the importance.

The Subcommittee today is hearing testimony about a long-standing program under the Clean Water Act that is aimed at helping to restore and protect our Nation's coasts and estuaries,

the National Estuary Program. Estuaries are unique and highly productive waters that are important to the ecological and economic basis of our Nation.

Fisheries, wildlife, recreation, and tourism are heavily dependent on a healthy estuary system. Yes, despite their value, most estuaries in the United States are experiencing stress from physical alteration and pollution, often resulting from development and rapid population growth in coastal areas.

In the 1980s, Congress recognized the importance of and the need to protect the natural functions of our Nation's estuaries. As a result, in 1987, Congress amended the Clean Water Act to establish the National Estuary Program.

The National Estuary Program identifies nationally significant estuaries that are threatened by pollution, land development, and overuse, and provides grants that support development of comprehensive conservation and management plans to protect and restore them. The Program is designed to resolve issues at a watershed level, integrate sites into the decision-making process, foster collaborative problem solving, and involve the public.

Unlike many other EPA and State programs that rely on conventional top-down regulatory measures to achieve environmental goals, the National Estuary Program uses a framework that focuses on stakeholder involvement and interaction in tailoring solutions for problems that are specific to that region in order to achieve estuary protection and restoration goals.

Since its inception, the National Estuary Program has been a leading example of a collaborative institution designed to resolve conflict and build cooperation at the watershed level. Today, the National Estuary Program is an ongoing, non-regulatory program that supports the collaborative, voluntary effort of stakeholders at the Federal, State, and local level to restore degraded estuaries.

Currently, there are 28 estuaries in the National Estuary Program and all are implementing restoration plans developed at the local level through a collaborative process.

The National Estuary Program has been beneficial in improving and protecting the condition of estuaries in the Program and the Program shows that a collaborative, voluntary approach can provide an alternative to sole reliance on traditional command and control mechanisms.

For example, EPA reports that the National Estuary Program has protected and restored over 102,000 acres of estuary habitat since 2007 and 1 million acres since 2000. We need to be sure that the individual estuary programs continue to effectively implement their comprehensive conservation and management plans for protecting and restoring the estuaries. We need to be careful not to add new layers of programmatic bureaucracy on the programs that could divert valuable resources away from the implementing of those plans.

I look forward to the testimony of our witnesses today and hearing about the National Estuary Program, how it is working well and ways the Program can be further improved.

I yield back, Madam Chair.

Ms. JOHNSON. Thank you very much.

Mrs. Tauscher

Mrs. TAUSCHER. Thank you, Madam Chairman, and thank you so much for holding this hearing on the National Estuary Program. I am so pleased that our very esteemed colleague, Norm Dicks, is here today to talk about the Puget Sound and about his work.

Norm, since becoming the Chairman of the Interior Subcommittee on Appropriations a few years ago, you have just demonstrated such a very, very strong and unwavering commitment to the National Estuary Program. You are a great friend. You are a tremendous advocate. No one gets in the way of Norm. I hope we all know that. I know his friends on the panel with him from the Puget Sound area know how effective he is. But as someone that represents the Bay Area, thank you, Norm, for all you have done to keep those dollars coming. We really appreciate it.

When the President proposed, very absurdly, low funding levels at the EPA a couple of years ago, you simply said no. Norm, when you say no, it sticks. You restored full funding and ensured that the money goes to its intended purposes, actual field work and the estuaries.

Each year, Jim Saxon and I, along with about 50 colleagues, send you a letter asking for funding of the National Estuary Program. As we begin this next appropriation process, I want to thank you for your continuing commitment to the National Estuary Program.

You know, it is remarkable that these estuaries can accomplish so much with only \$600,000 of Federal funds each year.

I would also like to welcome Judy Kelly, Executive Director of the San Francisco Estuary Project, who is here with us today, and Michael Carlin, the Assistant General Manager of the San Francisco Public Utilities Commission, who will be testifying on the third panel. I am very proud of the work that you both have accomplished in San Francisco.

Our estuary in the Bay Area includes the entire San Francisco Bay and Delta, encompassing roughly 1,600 square miles. The Bay Delta provides drinking water for 22 million Californians and is the economic lifeblood for our State's agricultural, fishing, and tourism industries. The health of the San Francisco Bay estuary is essential to strengthening and continuing to improve the economy and the well-being of our environment.

As we move forward, I believe that this Committee should be committed to reauthorizing the National Estuaries Program. Through this process, we must understand that the effects of climate change will be felt first and acknowledge in the estuaries, where rising sea levels will affect the health of the ecosystem. It is essential that the Federal Government assist the National Estuary Program in preparing for climate change.

I also believe that the Program should be expanded to include additional estuaries. I would like to note that no estuaries have been added to the program for 13 years, despite considerable interest from other States and localities.

Chairwoman Johnson, again, thank you for holding this important hearing.

Chairman Dicks, thank you so much for your leadership and your support, and, once again, I thank all the panelists for appearing today.

I yield back the balance of my time.

Ms. JOHNSON. Thank you, Mrs. Tauscher.

Now, as they would say in Texas, a man from the neck of the woods out there, Mr. Baird, is going to introduce the panel.

Mr. BAIRD. Thank you, Madam Chair. It is just a delight for me to see so many good friends and, of course, the dean of our delegation, Congressman Dicks.

Norm, thanks for all your leadership on this. The Puget Sound Recovery Act is something that has long been needed and will really save a precious jewel for not only the United States, but for the world.

Madam Chair and Ranking Member Boozman, as I listened to your comments about not being near an estuary, I think we should extend an invitation to you for a field hearing and show you this magnificent resource. And I actually mean that, because it is just such a special place, and those of us who live in Washington State truly do cherish this.

And yet, as beautiful as it is and as much as we love it, it is in real jeopardy right now. A host of studies are showing that. We have a dead zone in the Hood Canal; we have increasing contamination. And these individuals here and the legislation before this Committee today has a real chance to help reverse that, and I commend you, Madam Chair. The title of today's hearing, Protecting and Restoring Our Greater Waters. This is one of America's truly great waters and we are committed to restoring it.

As many of my colleagues have spoken about Chairman Dicks' he has led the way on salmon recovery; he has led the way on identifying and fighting the problems confronting Hood Canal; he has brought together a truly collaborative vision in our region to help address this; and, of course, he has been instrumental in helping our national parks throughout this great Country.

Norm, thank you for your leadership, and this is just one more example.

Madam Chair, it is worth moving this legislation as quickly as we can so that, when it passes the House, we can hear Chairman Dicks yell "Huskies," his signature celebratory shout.

I also want to thank our other witnesses here. You have already acknowledged Administrator Ruckelshaus.

Mr. Ruckelshaus, thank you so much for your service and so many years in so many ways; first as head of the EPA and in your other capacities, but also your great service to the Pacific Northwest. We are all tremendously grateful.

One of the strengths of our great region is the role of citizen organizations. Kathy Fletcher is Executive Director of People for Puget Sound. This is a very effective and comprehensive advocacy group.

Kathy, it is great to see you again.

And then we are also pleased to have Ron Kreizenbeck here who, as I understand, is on loan from EPA, and we thank you, Ron, for your work on the partnership.

This will be truly an enlightening and exciting hearing for many of us, really a signature day as we move forward with a long-term strategy for restoring this truly great watershed. I thank the Chairwoman for her leadership, as well as the Ranking Member, and look forward to our witnesses' testimony.

Ms. JOHNSON. Okay, we will now begin our testimony. I might say, too, that this Transportation Committee has a bill on the floor, so we have a number of Members that are there. The Honorable Norman Dicks has joined panel two, so they will be featured as one panel. But at this time we will recognize Mr. Dicks.

**TESTIMONY OF THE HONORABLE NORMAN D. DICKS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF WASHINGTON; BILL RUCKELSHAUS, CHAIR, LEADERSHIP COUNCIL, PUGET SOUND PARTNERSHIP, OLYMPIA, WASHINGTON; KATHY FLETCHER, EXECUTIVE DIRECTOR, PEOPLE FOR PUGET SOUND, SEATTLE, WASHINGTON; AND RON KREIZENBECK, SENIOR ADVISOR, PUGET SOUND PARTNERSHIP, OLYMPIA, WASHINGTON**

Mr. DICKS. I want to thank Chairwoman Eddie Bernice Johnson and Ranking Member John Boozman and the other Members of the Committee, particularly my colleague, Brian Baird. We are here today to talk about our efforts in the Pacific Northwest to restore Puget Sound.

Now, as you know, I am Chairman of the Interior and Environment Appropriations Subcommittee, and I just wanted to mention that we have increased the funding from the 2008 request of \$6.8 million to \$16.6 million for the National Estuary Program, and in 2009 it went from \$7.4 million in the request to \$16.8 million. So we are trying to help on estuaries across the Country.

We are also concerned. The great waterways of the Country include the Everglades, as one of our great national restoration efforts, and then the Chesapeake Bay and the Great Lakes and Puget Sound, and, of course, San Francisco Bay is another very prominent estuary. Ours, the Puget Sound, is the second largest estuary in the Country.

When I was a kid growing up, my dad used to take us to the baseball games in Seattle and we used to go out to Lake Washington and we would see the signs: "Polluted, you can't swim in this." I mean, it was terrible. And the people of Seattle bonded and put together the resources—this was before there was a clean water program—and they cleaned up a 26 mile lake and restored it, and today it is very pristine. It always has to be protected, but it is very pristine.

We are using that as the model for cleaning up Puget Sound: the model so that citizens can play a role in doing this. The Governor of our State, Christine Gregoire, has created a Puget Sound Partnership. It was first a group that got together under the leadership of Bill Ruckelshaus and Jay Manning and Billy Frank. We worked for about a year to come up with a strategy about how we were going to restore Puget Sound.

And we brought the GAO out to Seattle and looked at what had happened in other restoration efforts and why they hadn't been more successful. One of the things that I think is crucial is that we are working on an action plan. Bill Ruckelshaus is the Chairman of the Leadership Panel that works with the Executive Director and the Partnership to try and create this plan, and the plan will be presented to the State Governor and the legislature in December of 2008. This is pretty major stuff.



Now, we know a lot of what the problems are. We have a pollution problem and we have runoff from storm sewers. We know that many of the salmon and the orcas—and we have lost a lot of birds—are affected by mercury. So we have serious environmental problems. Puget Sound, I would say, is in decline. You look at it, it looks pristine, it looks beautiful. This is one of our central problems. We have to educate the people of Washington State and the people of our region that this is a national estuary that is in trouble. We have a foundation that is going to be created that is going to work on education to explain to people not only that we have got a problem, but what they can do about that problem.

You talked today about the rivers that flow into an estuary like Puget Sound. They are crucially important and we have to make sure that those rivers are properly taken care of. And we are working on the watersheds throughout the region; they are very important. One of the other problems we are faced with is it is such a beautiful area, many people want to move to Seattle, want to come into the Puget Sound region, so we are faced with a dramatically growing population.

So we want to work with the Federal Government. I have introduced legislation, H.R. 6364, that creates a program through EPA. Ron Kreizenbeck worked for EPA and is knowledgeable about these problems. Our effort is to create a plan at the Federal level to match and work with the State to implement the State plan. The State plan is going to be the crucial part of this effort, and what we need is the help of the Federal Government. We have increased the funding up to \$20 million. The other estuaries, the Great Lakes and the Chesapeake, receive more than that, but we are building up our effort so that we have the resources to help the local governments do the projects that are necessary, and the tribes, to get this job done.

But we couldn't do this without the leadership of these three people, and it is an honor for me to have Bill Ruckelshaus at my left, who will present, and you have heard a lot about him. Kathy Fletcher has also done fantastic work with People for Puget Sound. Ron Kreizenbeck is a lifetime EPA employee who is on loan to the Puget Sound Partnership. So I think we have outstanding people here today as witnesses and I am going to turn it over to them and then we can take your questions.

Ms. JOHNSON. Thank you very much.

Mr. Ruckelshaus.

Mr. RUCKELSHAUS. Madam Chair, thank you for the opportunity to make a presentation here before you. I have submitted a written statement and will summarize that statement.

Norm Dicks, as you have mentioned and as Brian Baird has mentioned, Congressman Boozman has mentioned, is crucial to this whole effort, and he is much too modest about it. The Puget Sound Partnership, which was created as a result of a year-long study, commissioned by the governor. Norm Dicks was on that Partnership. It was really a commission that looked at the problems of Puget Sound. He was there for every meeting. He would fly back from D.C. and come back here again the next day just to make sure that he was present, and his support and effort on behalf of the Sound has really been inspirational to everybody who lives there.

This bill that he has submitted, and its counterpart in the Senate, is really important for us to do just what you suggested be done in your opening statement, and that is for the State to step up and make sure that the State is committed to doing what is needed all of us need to cooperate on, namely, restoring this national treasure and making sure that, as it stretches into Canada, is restored there as well. But without the State taking a leading role in this, often the whole thing would fall to the Federal Government.

The Federal Government has been very responsive to our effort in the region, they have formed a Federal Caucus, and essentially what we are asking for in this bill is that that effort on the part of the Federal agencies, be ratified by the National Congress, be ratified by the Administration and, in effect, legitimized that this is a national priority. It is something we need to do together; it isn't the Federal or the State or the local or even tribal governments' responsibility, it is all of our responsibility and we all need to step up to what our role is.

Congressman Boozman suggested that there needs to be citizen activity on the part of this, there needs to be voluntary actions taken. We have an example of that very thing having happened in the development of the salmon recovery plan for Puget Sound, which was four years in the making. It involved citizens from all over the Sound developing plans for their watersheds that were then rolled up into a Puget Sound-wide plan that was accepted by NOAA in December of 2006.

So there is a tradition in Puget Sound. Norm mentioned the impact of the citizen activity on Lake Washington. There is a tradition in that region of citizens taking hold of their own place, of ensuring their own future, and that also is incorporated into the actions that are being taken by the Puget Sound Partnership, which is the new agency created by the State as a result of the recommendation of the commission that Norm and I served on for a year.

You have heard about the problems in the Sound, the reasons why we ought to proceed. The big problem really is people. We have 4 million people living in Puget Sound now. We expect another 1.5 million people by 2020, the deadline that has been set by the State legislature for restoring the health of Puget Sound. The people there now are going to be augmented by another 1.5 million, as I mentioned. The newcomers have to be housed, we have to figure out how to transport those people from place to place. We need to treat their waste. All of that puts enormous pressure on the land and on the receiving waters of a place like Puget Sound.

Puget Sound is 16,000 square miles. It includes the terrestrial areas all the way from the top of the mountains on both sides of the Sound down to the marine areas themselves. And pulling all of our efforts together and coordinating the effort to restore that ecosystem, make sure it continues to provide the prosperity for the people who live there, and at the same time allows them to live in a health ecosystem which allows the prosperity that that ecosystem underpins to continue.

That is what we are dedicated to doing. Locating this office out there will have an enormously beneficial effect on our efforts; it

puts the Federal Government automatically at the table when we are deliberating on what should be done; it provides the exact kind of approach that the National Ocean Commission, which I was a Member of, recommended, namely, that you deal with these problems on a regional basis; it ensures we will monitor what we are doing and adaptively manage it when it is not achieving its purpose; and it will provide a wise expenditure of money going forward.

So I will now turn it over to Kathy Fletcher.

Ms. JOHNSON. Thank you very much.

Ms. Fletcher.

Ms. FLETCHER. Thank you very much, Madam Chair and Members of the Committee. Thank you for asking me to testify here today on the importance of stepping up the Federal Government's efforts to protect and restore Puget Sound.

Thank you, Mr. Baird, for your kind words, and Mr. Dicks for your leadership and your kind words as well.

Puget Sound, here is an example of how beautiful it is. Puget Sound is indeed a national treasure. Its biodiversity rivals that of any tropical rain forest. Our abundant fisheries are legendary. Our deep water ports and our strategic location on the Pacific Rim are all national, if not international, assets.

But as you have heard, Puget Sound is in crisis. With pollution, both historic and current, mismanagement over the years of our fish and wildlife, and unchecked development, our challenges are huge. In fact, we are at the point now where some of our iconic species like the orca whales and the legendary salmon runs are officially endangered; our shell fish industry has had to retreat to the remaining unpolluted rural parts of Puget Sound; 75 percent of our salt marshes are gone; many of our bays are superfund toxic sites; and, of course, recreation, tourism, human health, and our region's economy and quality of life are at stake.

Now, the State and Federal Government and local governments haven't sat idly by while this crisis has unfolded. In fact, back in the 1980s, I headed by the State agency that was formed to prepare a management plan for Puget Sound. That is when we became part of the national estuary program. However, a combined failure of all levels of government to implement that plan have led to the continued decline of Puget Sound, and that is where we are today.

EPA's role through this time has been really, really helpful and important, but, frankly, it has ebbed and flowed, and we are at a point where it is really crucial to step up that effort, and that is why we are so excited about the possibility of setting up an EPA program office to make sure that we have this effort with EPA on a steady and constant basis for the long term.

Indeed, what we need is a long-term, sustained, accountable, well-funded effort with clear deadlines and a laser focus on results. But you are probably wondering, well, why does this merit national attention. This map takes a little bit bigger view from the previous one and it shows you that, in fact, we are an international body of water. You see the City of Vancouver there. You see the City of Seattle. You probably can't read all that, but that is showing the Strait of Georgia, which is all attached to Puget Sound, and unless

we are able to address this on an international basis, we won't be successful.

EPA has shown a lot of leadership in getting together across that border, but it would be extremely helpful for them to play an even greater role in helping us do that.

We also have a huge Federal role on Puget Sound. So much of the land in Puget Sound Basin is actually owned or managed by the Federal Government, as well as the normal Federal agency activities that you would find in any estuary, like Corps of Engineers permitting or U.S. Geological survey studies. Forty-three percent of our Basin is actually in Federal ownership, and that crosses a number of agencies, from the Forest Service to the Park Service to the military installations that we have. So EPA's role as a coordinator is absolutely essential to our success in Puget Sound.

As I mentioned, a number of our species are also federally listed as endangered species, which makes the Federal role and responsibility for helping in the recovery of these species even more important. And I might add that we have got a lot of species waiting in the wings that are in serious decline that could find themselves on the endangered species list. We hope that won't occur and we think a more effective effort joining together of all levels of government and the public is our only successful approach in making sure that additional species don't find their way to the endangered status.

This won't be easy. We have certainly paid a lot of attention to not only the lessons that we have learned since the 1980s in Puget Sound, but all over the Country where people are dealing with estuary restoration challenges. But I think that one of the keys to giving it our best shot is to equip EPA with an increasing level of leadership and responsibility to help us sustain this effort over time, so we are very enthusiastic about the possibility of an EPA program office.

Thank you very much, and if you have any questions, I would be pleased to address them.

Ms. JOHNSON. Thank you very much.

Mr. Ron Kreizenbeck.

Mr. KREIZENBECK. Thank you, Madam Chair and Members, and thank you, Mr. Baird and Mr. Dicks for your kind comments.

I am testifying here today as a long-term EPA employee, but I am testifying as a member of the Puget Sound Partnership. I wanted to make that clear. I am not sure it was in my written comments, but I want that on the record.

I am very encouraged by Congressman Dicks' introduction of this bill. I think what it will do is codify and put some structure around some things that we have been trying to do for many years. This is the third time I have worked with Bill Ruckelshaus, so I have been at this for a long, long time. As you heard from Kathy and Bill, we have not been sitting idly by. But it will take something that has some structure around it, I think, to actually keep all of the Federal entities at the table and keep them moving, and that is exactly what this legislation will do.

EPA has been leading the effort to coordinate the Federal agencies and programs within Puget Sound and in the Partnership or the blue ribbon commission that Bill Ruckelshaus chaired earlier, we organized a Federal Caucus which includes 12 agencies that

work around the Sound to be able to coordinate our input into that process. And that process works very well. It relies on the fact that we all know each other, we are used to working together, and we want to succeed. In tough times, that can break down, as has been demonstrated to me in the past.

We are also working cooperatively and successfully with our Canadian colleagues on protecting the ecosystem. I think when you look at the map, you see that the U.S. can do an awful lot, but if we don't coordinate everything with the Canadians, there is much at stake there. Vancouver is experiencing the same growth as we are, perhaps more. They have got the 2010 Olympics coming up. That ecosystem is going to feel a lot of pressure as well.

In 2000 we structured a statement of cooperation between the National EPA and Environment Canada. We have a statement of work every year that we work on and we have done good work there. Once again, that needs to have continued legs under it in order to succeed as administrations come and go on both sides of the border.

As Bill Ruckelshaus said earlier, we have come to realize that our current efforts are not sufficient. A Federal office of Puget Sound will allow all these current collaborations to flourish and strengthen, and I think the law that we have before us will do that.

Last year, the Federal Caucus, with an eye towards how to sustain ourselves, went out and interviewed some of the other large water bodies and looked at the systems they had in place, and we came up with several things which are incorporated in the bill you have: the need for intense collaboration and commitment among the Federal agencies; the primary mission of this office would be to assist the Puget Sound Partnership to refine and implement the action agenda; one thing that the Federal agencies bring to the table, we have all found, is that they have the ability to bring science and information and data management, so that is something that would be a strong function; and coordinating all of the Federal functions that are there. We have discovered among ourselves that having different granting cycles, different match requirements and all those things, as they grew up in these silos, are difficult to work through, but I think this legislation addresses that head on.

In sum, I am delighted that we are doing this and I am very optimistic in the Puget Sound. As I said, I have spent virtually all of my career working on it and I think the time is now. We have the strong leadership of Bill Ruckelshaus and a very strong leadership council, good State leadership, good Federal participation and good leader. We have the support of the tribes, and that is another role that all of us Federal agencies take our trust responsibilities very well. So I think things are lining up very well and this proposed legislation would certainly move us down the track in the right direction.

Thank you very much.

Ms. JOHNSON. Thank you very much. We will now begin our first round of questions.

I would like to pose one, and that is what is the added value of an EPA-Puget Sound program office for the Puget Sound?

Mr. DICKS. I am going to let the experts comment, but that is in my statement, and I would ask unanimous consent if I could put my full statement in the record.

Ms. JOHNSON. Yes.

Mr. DICKS. Because it addresses that issue.

We think we need a Puget Sound office in the State of Washington to work with the Puget Sound Partnership to coordinate this Federal-State effort. We are not talking about a great big office, but we are talking about an office that would work in conjunction with the state office to implement the action plan. Ron knows about this, he has been working on it. I will yield to him.

Mr. KREIZENBECK. Well, as I said, I think codifying the work that we have going on is primarily done because we all want to succeed and are working together. There is nothing that keeps us at the table other than we want to work together and we want to succeed. But I think the rest of the parts of this legislation that really help us with the funding and harmonizing some of the work that we do, the projects that we do, is something that is just good government.

I guess I could tell you horror stories about the things that we find that we have funded in one place by one agency and another agency comes in and says, you know, we could have done that too, and we have some grant funding here but we don't have the right match. All of that could be harmonized very well with an office where everyone was working together on this, and I think that is one of the major benefits of such an office.

Mr. RUCKELSHAUS. Madam Chair, if I could try to respond to that. I was at EPA when we created the Federal office for the Chesapeake Bay. These are very complicated undertakings and there are varying levels of government that are involved. Various agencies within the government have responsibilities. Coordinating all that is very important. Having a focal point for the Federal Government's efforts in Puget Sound could be very helpful in attaining our goals of cleaning it up. What we are asking the Congress to do is to legitimize that Executive Branch/Administrative Branch involvement in Puget Sound so that everyone gets the message this is an important national priority.

It is really an international priority, as the map, I think, demonstrates. And that imprimatur from the Congress and from the Administration on what is going on out there is very helpful in continuing to get the involvement at the State level, at the local level, at the tribal level, in addition to the Federal level, so that all of these various agencies charged with responsibilities can be coordinated in what they are doing. That whole effort is greatly advanced by legitimizing this coordinated Federal effort.

Ms. JOHNSON. Anyone else? Ms. Fletcher.

Ms. FLETCHER. Madam Chairman, the only thing I would add to that is that having observed and worked on this over the decades, the EPA level of involvement has come and gone, and depending on the priorities of the day or of the regional administrator or even the administrator of the entire agency, we have seen more or less emphasis. The lack of consistency and long-term sustained commitment has really hurt us over the years, and I think that this legislation addresses the need to get something set up that will last

over time. It is being able to follow through that really makes the difference.

Ms. JOHNSON. Thank you very much.

Ms. Fletcher, what are the primary stressors facing the Puget Sound and what are the challenges to address for these factors?

Ms. FLETCHER. Puget Sound is in trouble today because we have managed to pollute it, including with toxic chemicals that don't go away, and because we have destroyed so much of the natural habitats along the shorelines and in the river mouths and up the watersheds as well. So the physical places for the wildlife to depend on have disappeared.

What is especially challenging is that a lot of these activities continue on to the present moment and, as Congressman Dicks mentioned, our population is growing dramatically and we are dealing with changes brought on by the changing climate as well. So, as we look ahead, we realize that we not only have the problems that we have seen build up over the past and to the current moment, but we have to actually anticipate more stress in the future.

Number one stress, I think it is pretty well agreed around the table that the problems relating to stormwater, the developed areas, when you pave over the area and the water no longer soaks into the soil, you get both the runoff becomes excessive and lots of erosion and scouring of streams, but you also shunt all the pollution that happens to be on the land or on the streets or in the parking lots or applied at home. All those pollutants get washed right down into Puget Sound. So tackling that stormwater problem is very difficult but absolutely crucial.

Mr. DICKS. Also regulating the future growth so you can have a more sustainable growth, where you have a way for that water to be absorbed using bioswales. There are all kinds of different technologies that are being utilized today in new development, but you have to take that into account. Then we have to look at retrofitting the old.

So it is a very daunting challenge. I agree with Kathy, I think stormwater is the big problem, and it is a problem where we don't have enough sewer capability. You get a big storm and then the storm just washes all that pollution right into the Sound, and we have got to work on that. That is a problem nationwide, but it is particularly sensitive when you have got this body of water that is going to be adversely affected because we don't have the capacity to handle it where we don't have the necessary storm capacity.

Ms. JOHNSON. Thank you very much.

Mr. Boozman.

Mr. BOOZMAN. Thank you, Madam Chair.

Congressman Dicks, you mentioned that you had increased the funding for the National Estuary Program.

Mr. DICKS. Yes.

Mr. BOOZMAN. I know that you have tremendous experience in this area, and maybe you can help us too, Mr. Ruckelshaus. Where should the funding be?

Mr. DICKS. Well, it isn't going to ever help much if it is \$600,000 per estuary, okay? And that is what we are basically saying, is that Puget Sound has been ignored while we looked at the Chesapeake and we looked at the Great Lakes and the Everglades. Those have

been the three great restoration efforts, and the Administration agrees with us on this. We have to step up now.

Now, I want to do this for a lot of other estuaries in the Country. I think it is a national priority that we expand this program and give them more help. But the reality is when Bill Ruckelshaus was the administrator of EPA, we had \$5 billion or \$6 billion a year during the Nixon administration to send out to the local governments to do the wastewater treatment plants and the sewer projects and all of this stuff. Do you know what we have now? \$250 million. All the rest of it is loan money, and the Administration is cutting back on the amount of money that is available for loans.

Christine Todd Whitman did a study. I think it is around \$388 billion backlog in this Country in wastewater treatment facilities. Bill knows all this better than I do, but this is a national issue and it rests right here in this Committee, and we on the Appropriations Committee, the programs that we have had in the past are gone, so we don't have the sources. It is just like transportation. We have got to find resources to deal with these problems.

Bill, do you want to comment?

Mr. RUCKELSHAUS. Well, we have a need for money, there is no question about it. The money that Norm mentioned that was in the sewage treatment plant grant program that peaked out at about \$5 billion in the middle 1970s and has since been cut back was aimed at addressing the major un-sewered parts of the Country that needed sewage treatment. The States put up 15 percent of the money and the local governments only ended up putting up 10 percent of the money.

That period is gone, we are not going to see that kind of money again, we don't think, at the local level, so the local governments are paying an enormous sum of money. Places like Seattle will spend \$500 million this year on sewers and treatment of stormwater, the problem that both Norm and Kathy have mentioned, which is a huge problem in our cities. That is part of what we need to step up to.

This is a much narrower request we have here, but the request is the structural coordination of the Federal effort, regardless of how much money is being spent, as well as the State effort, so that whatever money we spend we can ensure that it is allocated as wisely as possible and that we get the biggest bang for the buck. The problem is now we have countless grant and other kinds of programs aimed at various aspects of Puget Sound health, and they are not well coordinated, and that is the job of this new agency whose Leadership Council I chair—to try to bring better coordination to that. And having a single place we can go to get Federal understanding, coordination, and help will be enormously beneficial to the overall effort.

Mr. BOOZMAN. Okay. So we kind of have got two things going on: we have the proposal for the new Puget Sound in the center of it is the Chesapeake program—

Mr. DICKS. Right. Exactly.

Mr. BOOZMAN.—and then also the current program, the NEP program. And I guess what I am wondering—I understand your rationale and arguments regarding the need for the Puget Sound. The NEP program, as we are looking at it, do we need to signifi-



cantly restructure it? We have talked about money and things. Do we need to redo that program?

Mr. DICKS. My view is that this estuary program is a minimal approach. This is just giving a small amount of money to each of these communities. They are working. They need more resources. If they are going to do anything in Tampa or Long Island or San Francisco, they are going to have to have more sources as well. I think this is a national issue. I think we ought to go back to what we had before, especially in the rural areas.

Seattle and King County can come up with some big money because we have got the people, but in the rural areas you can't believe all the STAG grants that come in, State Tribal Assistance Grant requests come into my committee, and I can only fund a small fraction of them. So we need a more dramatic effort here.

You can double or triple the money in this estuary program, and it would still be a minimalist approach. It is just not enough to do very much with. You can't really get anything really going, and that is why what we are trying to do is increase the Federal investment and the State investment. Even then it is going to take years to really make a difference because of how expensive it is to deal with things like stormwater over this huge area. So we are doing the best we can, but we are nowhere near we need to be.

Mr. BOOZMAN. Thank you very much, Madam Chair. I appreciate the testimony. This is an excellent panel.

Mr. RUCKELSHAUS. Let me make one other point, and that is whatever money we have to spend—

Mr. DICKS. Let's spend it wisely.

Mr. RUCKELSHAUS.—we have got to spend it as efficiently and effectively and wisely as we can. Putting this structure in place that allows that coordination to take place, that encourages it to take place as a result of congressional action is very important in getting the money spent wisely. We have identified these problems, they are real ones and they are not going to go away just by looking at them; we have got to do something about them, and some of them are going to take a considerable amount of money, as Norm has mentioned. But you are going to be held accountable, we are going to be held accountable for the expenditure of that money in a wise way, and that is why this request that we have made I think really makes sense.

Ms. FLETCHER. If I could just add a brief point. I think your question is a good one about the National Estuary Program. My comment about it would be that at the level it is currently operating, it supports planning, but it doesn't support actually getting the job done, and that is really the issue. That is the issue we are dealing with in Puget Sound. We have been planning and planning and planning, but actually getting the job done and, of course, getting the job done is more expensive than doing the studies or doing the planning.

Ms. JOHNSON. Mr. Baird.

Mr. BAIRD. I want to again commend the panel for outstanding work. I should also recognize, for the benefit of my colleagues, the people you are seeing here today are behind them—not figuratively here, but back home—the county commissioners, the city councils, the mayors, the businesses, the tribes, we have broad, comprehen-

sive buy-in on this effort. This Puget Sound Partnership has really put together people who really believe in this.

But as Ms. Fletcher was just saying, they need the resources to do it. There is absolute commitment, and this is a comprehensive, coordinated and collaborative effort. One of the things I commend our colleagues on is, as you look at the bill that Congressman Dicks has put before us, there are, as Ms. Fletcher pointed out, there are actual substantive measures—and Mr. Ruckelshaus alluded to—to actually do something, Federal matching grants on a host of measures.

Do we have any sense—and you may not have this data—do we have a sense of, if some of these measures were implemented, what kinds of reductions in pollutants we might see or what kinds of improvements in water quality, and what kind of tangible outcomes we think will result from this?

Mr. RUCKELSHAUS. That is a really good question and it will be part of the action agenda which we are now preparing to measure and monitor exactly what progress we are making as a result of the steps that we are taking, and we don't have that monitoring data now. We have some data and we have some that has been collected by various programs, again, uncoordinated depending on the nature of the program; and we need a comprehensive, system-wide monitoring process that will tell us what are the—in the first place, we need the science to tell us—and we have that underway—what are the indicators of Puget Sound health that we need to track.

We are committed to achieving those indicators by the year 2020 under the State statute, and each of the individual agencies, including Federal agencies, have some portion of the responsibility for achieving the results of those indicators so we provide benchmarks along the way as to whether or not they are making progress. Kathy's remarks about implementing these plans are absolutely right. It is one thing to put the plan together; making it work and implementing it is really the tough part.

So that is the process we are using to ensure that we both know where we are going, because we have the appropriate goals represented by these indicators, and then we have benchmarks along the way that will tell us whether we are getting there; and we are committed to reporting that not only to the agencies involved, but to the public as well.

Mr. BAIRD. This is certainly something I know from experience—that Congressman Dicks has been a stalwart advocate for in the Congress. He is not averse to investing Federal dollars in worthwhile projects such as this. But every time I have been around Norm he asks “what is the outcome?” He always wants to know what we are getting for our dollar.

Mr. DICKS. Well, just like you and I did on the Willipaw with our Spartina program over six years, we have this terrible invasive specie. These are estuaries, too. I mean, the Willipaw and Grays Harbor, they need help too. I mean, this truly is a national concern, I think.

Mr. BAIRD. One thing we haven't talked so much about, too, is the economic impact for the region of this resource. We speak about the environmental impacts, but the economic impact: a very vibrant and productive shellfish industry, for example, crabs, clams

especially, oysters, gooey ducks. These are multi-million dollar industries that employ countless people; a commercial fishery, the recreational aspects.

Saving this Sound is going to return economic benefits, it is not just about let's protect an estuary because of its environmental impacts. That alone would be worthwhile, but a tremendous portion of our State's economy depends on a healthy Sound. Imagine a tourism campaign that said visit beautiful Seattle, see the dead Puget Sound. It is not going to resonate well and we are not going to let that happen.

Ms. Fletcher?

Ms. FLETCHER. I think, to add some hope to the conversation about all the problems that we are facing, your question about what result can we expect, we can actually look at the positive things that have been done and see some success already. We know, when we get out there and we actually restore damaged habitat, that the small salmon come in there the very next day to use that habitat; and we know, when we clean up the toxic sites, which we have done some considerable amount of, that we get those toxins out of the system, out of the food Web, and that is ultimately what is going to save the whales, for example, which are currently so contaminated that if a whale dies and washes up on the beach, you have to dispose of it at a hazardous waste facility.

So we know, based on the things that we have managed to do, that we get results and often those results are very immediate in terms of what the ecosystem shows us.

Mr. BAIRD. You know, Norm—and my time is just about up—your comment on what we have done with your leadership in Willapaw Bay, this is a model for the Country, really. We had an invasive species, Madam Chair, of Spartina grass, a non-native grass that was threatening to take over this magnificent and pristine estuary. We have beaten this, virtually. We hope to virtually knock this grass out this year. That almost never gets achieved.

And as Kathy just mentioned, we are seeing salmon come back, migratory shore birds coming back very quickly. These systems can be restored. If we stop beating them up, they can be restored. It is the one thing that I haven't seen—and I will have to read the bill more carefully, but I am not sure we have done enough to address the invasives issue in this legislation. Perhaps it is in there and I am just missing it, but it is something we want to make sure we look at, because Spartina and others are looking at possibly—

Mr. DICKS. Well, we certainly have the Fish and Wildlife Service in. That is the agency we used. They can be there to help us.

Mr. BAIRD. Great. Thank you again, Norm, for your leadership, and all the same to these wonderful individuals.

I yield back my time.

Ms. JOHNSON. Thank you very much.

Mr. Kagen.

Mr. KAGEN. Thank you, Madam Chairman, for holding this very important hearing. It is nice to know that other areas of the United States aside from Wisconsin care about clean water. I am very happy to hear, as well, that Congressman Baird is going to promote his area for tourism. I just can't afford the gasoline to drive out there right now.

Mr. DICKS. That is why you should have a hearing. I didn't say that.

Mr. KAGEN. My question has to do with what portion, if this study has been done, and elements will be measured and monitored. I come from the philosophy that you cannot monitor something unless you can measure it. So I think it is very essential that you decide what it is you are going to be measuring so we can actually monitor your progress. But more to the point, what portion of the Puget Sound pollution or unhealthy water and conditions are contributed by activities in Canada?

Mr. RUCKELSHAUS. Well, the map is no longer there, but the map on the wall showed what portion of Puget Sound actually goes up into Canada. There is a considerable portion of it up there.

Mr. KAGEN. But you also understand that the runoff occurs where there is development. I don't know how well developed Canada is in that location.

Mr. RUCKELSHAUS. The City of Vancouver is huge.

Mr. KAGEN. So is there a study that shows what portion of the contamination of the waterway, the ill health of the area is due to Canadian activities? The reason I get to that question is unless you have that study, I don't know how much of this funding really should be paid by Canada as well.

Mr. RUCKELSHAUS. Canada is addressing the issues that involve Puget Sound and the Strait of Georgia the same as we are. We have had communications with them and over the past several decades there have been a lot of communication with the Canadians about their contribution to the problems of our shared waterways. We have had preliminary conversations with them. We have a conference coming up next fall with the Canadians on this very issue.

Our determination is to really get our own house in order, make sure that we understand our own contribution to pollution. We have plans to abate that and to get at it before we go and ask our neighbors to the north to do their part and join us. We have already done that; it is not as though these conversations haven't gone on. They are making a contribution to the problem and they recognize they have got to do things to alleviate it, the same as we are.

Mr. KAGEN. So on page 9, lines 3 through 6, where you indicate, Mr. Dicks, that no more than 50 percent of the expense will be paid by the Federal taxpayers, we are not going to be cleaning up Canadians' mistakes, is that right?

Mr. DICKS. No, no. That will be used in our State waters and in Puget Sound, and the Canadians are working on their problems. They have problems too. But, you know, when you look at it, it is really kind of bay-by-bay, community-by-community. Some of the rural areas are still pristine, which is wonderful, but in the big urban areas, that is where the problems are. So we are working on the toxics; we are working on the chemicals; we are cleaning this up. But it is a question of resources about the speed in which we can do this, and we have never had a real comprehensive plan.

One of the things that I insisted on in this effort was that there is some science to this. We have to be able to show people that there is a scientific underpinning for what we are doing, and we have had a plan going on Hood Canal, which is part of Puget

Sound, for four years and that has been a science-driven effort, and we have learned a lot and it is very complicated; and you need models so that you can look at all the inputs and outputs into the body of water, how the tides go in and out and how the rivers come into it. And there has been science done, but it has never been put together comprehensively into a database for Puget Sound.

Mr. KAGEN. I appreciate that.

Mr. DICKS. And that needs to be done. That is part of this effort, so we will know what we are doing.

Mr. KAGEN. I appreciate that.

Mr. DICKS. And we can always get the Canadians to do more. We are going to push on that.

Mr. KAGEN. I don't represent anyone in Canada, but I appreciate the fact that what you are doing is really beginning to establish a precedent that others will follow throughout the Country and perhaps in Canada as well, and it might be very well to just lay down the fundamental principle that your freedom to pollute your waterways ends where our waterways begin, and apply our values overseas, in this case not that far, to Canada. But we may as well take that fundamental principle and apply it to China some day soon as well.

I thank you and I yield back my time.

Mr. HALL. [Presiding] Thank you, Mr. Kagen.

I am your new Chair. I apologize for missing your testimony; I was triple-booked on Committees. But may I ask just one of Mr. Ruckelshaus, excuse me.

Mr. RUCKELSHAUS. I have trouble with it myself, Mr. Chairman. [Laughter.]

Mr. HALL. Thank you. You are most kind.

My district is home to the Hudson River, which itself is a tidal estuary, and, as has been noted, estuaries are a nexus of salt water and fresh water bodies that are a unique habitat for aquatic life and have special environmental significance. Obviously, the balance between salt water and fresh is important. I am curious to hear the thoughts you may have, or others on the panel, as to how they feel the goals of the NEP would be impacted by salt water intrusion as a result of climate change. Have you contemplated such impact?

Mr. RUCKELSHAUS. We are taking into account the impact of climate change in the Puget Sound region. For instance, there are global problems involving acidification of the ocean which are quite serious and have not really been focused on very much in the whole climate change debate. But the question of salt water intrusion and the contribution that climate change might make to it can be very important in some parts of the world where that phenomenon is taking place.

The problem in our area, we have a climate change panel at the University of Washington made up of scientists who believe the real problems we are going to have are the melting of the glaciers which supply so much water in the late spring and early summer, when we need it. As those glaciers recede, we will find that we have more water when we don't need it, in the winter and early spring, and less when we do, in the summer and late spring.

So we are going to need to look at the possibility of storing water for those times when we are short of it. We need it to have adequate water for salmon to spawn, for instance. It is very important in the springtime and, as those eggs mature and hatch, throughout their spawning season. So that, plus having adequate drinking water, having water for other purposes in the area is going to be essential for us, and we are looking at all of these things, including climate, that affect the ecosystem in the area and trying to take steps to ensure that they are addressed.

Mr. HALL. Thank you, Mr. Ruckelshaus.

Ms. Fletcher, would you care to comment?

Ms. FLETCHER. Yes, thank you. In addition, one thing we know about our changing climate is that the sea level is rising and that if we are going to anticipate that, that we need to be very careful about restoring natural habitats along our shorelines, because we previously have kind of taken a development approach that we can develop right up to the edge of the water and then, of course, as the sea level rises, the need to fortify those developments causes additional habitat loss, which is a cascading problem for salmon and other species.

So part of the habitat restoration strategy has to make sure that we have got a healthy ecosystem to start with, as that sea level rises and we have a little bit of a margin of error to work with, because we have already started to see these changes occur in Puget Sound, so one fundamental piece of what has to happen now is to anticipate these changes and to provide a margin of error, and that hasn't been typically what we have done in the past.

Mr. HALL. Mr. Dicks, do you have a comment to add?

Mr. DICKS. Well, I would just say briefly that I think climate change, as former Vice President Gore has said, is the issue of our time. As Chairman of Interior and Environment, we have held hearings about what is happening on Federal lands, and we know that there are manifestations already. The glaciers are melting; we are seeing the fire season is a month longer on both ends. These fires are becoming horrific. The fire budget of the Federal Government has gone from 13 percent fire in Forest Service to 49 percent. We are now seeing drought. We are seeing bug infestation. The seas are rising. I mean, this is a serious issue that this Committee—and when you think about all the population in this Country that lives on the coast, what is going to happen to Florida?

I mean, this is our great challenge in our lifetime, I believe, and we have created a new institute at U.S. Geological Survey to look at what happens to wildlife, the impacts on wildlife, which I think are going to be tremendous. We have already seen the problems with the polar bear. This is going to be one of many instances around the world. This isn't just a U.S. issue, this is a worldwide issue where wildlife is going to be adversely affected. So we have to roll up our sleeves.

We are trying to get Puget Sound under control, but the manifestations of all of this for everyone—and I commend what you have done on the Hudson. I think you guys have tried to do a good job there, and I am sure you need more resources to do it. Long Island, our colleagues come to me and talk to me about that, and all these estuaries.

I am just going to say one thing Brian and I worked on. On the Nisqually Delta we took out all the dikes that agriculture had put in, and that one thing increased the amount of estuary on Puget Sound by 30 percent, one activity, because we have done all these things over the years. Now we have to reverse this and take out these dikes and get the salt water and the fresh water working again together to create habitat for the fish and salmon.

Mr. HALL. Mr. Kreizenbeck, I don't want to leave you out.

Mr. KREIZENBECK. Thank you, Mr. Chairman. I think one of the things, bringing it back to the legislation here, is that having a strong Federal office that can work across all the agencies to harmonize the adaptation strategies that we have to augment the action agenda that the State is developing will be critical. There is work going on on that now in all the agencies and we are sharing strategies, but I think making sure that all of those are vetted so that there is a harmonized way of dealing with all of the Federal tools we have is something that is really critical, and we are making some progress on that.

Mr. HALL. Thank you very much. Thank you all for your testimony and for being here today with us.

Mr. BAIRD. Mr. Chair?

Mr. HALL. Mr. Baird.

Mr. BAIRD. If I may, just for the record, Mr. Ruckelshaus, you mentioned ocean acidification. You will be pleased to know that the day before yesterday our Science and Technology Committee passed out a bill by Tom Allen, which I wrote along with Jay Inslee and Mr. Allen, to specifically address ocean acidification, which, as you know, is a big problem.

Mr. Chair, I would also just like to note for the record that we are all familiar with how colleagues tend to come and testify for five minutes and head out, and it is indicative of Chairman Dicks' absolute commitment to this that he did not do that; he stayed for the entire process, cleared his schedule so he could be here to edify us and to advocate for this important legislation. It is admirable and typical of what our dean and our chairman does.

Thank you, Norman. Thanks to all the witnesses.

Mr. HALL. I would echo that statement about Mr. Dicks. And I would have been here sooner myself had I not been at the Select Committee on Energy and Independence in Global Warming, which is dovetailing, I hope, with the work of this Committee.

Thank you again to the members of our first panel.

We would like now to welcome our final panel. The first witness is Mr. Craig Hooks, the Director of EPA's Office of Wetlands, Oceans, and Watersheds. Next is Mr. David Kennedy from NOAA. He directs the Office of Oceans and Coastal Resources Management. Mr. Richard Ribb will testify next. Mr. Ribb is the Director of the Narragansett Bay Estuary Program and will be speaking on behalf of the Association of National Estuary Programs. Following Mr. Ribb is Mr. Jeff Benoit from Restore America's Estuaries. And our final witness of the day is Mr. Michael Carlin from the San Francisco Public Utilities Commission.

Your full statements will be placed in the record. We ask that you try to limit your oral testimony to about five minutes as a cour-

tesy to other witnesses. Again, we will proceed in the order in which the witnesses are listed in the call of the hearing.

Mr. Hooks, you are now recognized.

**TESTIMONY OF CRAIG HOOKS, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DIRECTOR, OFFICE OF WETLANDS, OCEANS, AND WATERSHEDS, WASHINGTON, D.C.; DAVID KENNEDY, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, DIRECTOR, OFFICE OF OCEAN AND COASTAL RESOURCES MANAGEMENT, UNITED STATES DEPARTMENT OF COMMERCE, WASHINGTON, D.C.; RICHARD RIBB, DIRECTOR, NARRAGANSETT BAY ESTUARY PROGRAM, NARRAGANSETT, RHODE ISLAND; JEFF BENOIT, PRESIDENT, RESTORE AMERICA'S ESTUARIES, ARLINGTON, VIRGINIA; AND MICHAEL P. CARLIN, ASSISTANT GENERAL MANAGER, WATER ENTERPRISE, SAN FRANCISCO PUBLIC UTILITIES COMMISSION, SAN FRANCISCO, CALIFORNIA**

Mr. HOOKS. Thank you and good afternoon, Mr. Chair and Members of the Subcommittee. I am Craig Hooks. I am the Director of the Office of Wetlands, Oceans, and Watersheds in the Office of Water at the U.S. Environmental Protection Agency. Thank you for the opportunity to discuss EPA's National Estuary Program, one of the Federal Government's premier flagship ecosystem restoration and protection programs.

We have long known that estuaries are among the most ecologically viable and productive habitats on earth. Estuaries function as the feeding, spawning, and nursery grounds for many marine and terrestrial finfish, shellfish, birds and plants, supporting unique communities of plants and animals that are specifically adapted for life at the margin of the sea. Coast and estuary regions support a disproportionate large share of the Nation's economic output and population as well.

The National Estuary Program was established by Section 320 of the Clean Water Act amendments of 1987 with a mission to protect and restore nationally significant estuaries. This mission includes protecting and restoring water quality and habitat.

The NEP currently includes 28 programs located along the Atlantic, Gulf of Mexico, and Pacific Coast, and their study areas range in size from 23,000 square miles to 90,000 square miles. Although each NEP is unique, they have many things in common and owe much of their success to four principles: a focus on the watershed, collaborative problem-solving, integration of good science with sound decision-making, and public participation.

EPA supports these 28 programs by providing guidance, technical and financial assistance, and periodic program evaluations.

One of the priority problems common to all 28 NEPs is habitat loss and degradation.

Since 2000, the NEPs and their partners have protected and restored over 1.1 million acres of habitat.

The impressive work of the NEPs does not come without cost. During the years 2003 through 2007, the 28 NEPs received a total of \$85.3 million in Clean Water Act Section 320 appropriations. During those same years, the NEPs used these Federal dollars to leverage \$1.32 billion, or approximately \$15.50 for every \$1.00 in



Clean Water Act Section 320 funds. Over 95 percent of these leveraged resources were invested on on-the-ground activities like habitat restoration and stormwater management.

NEPs play a substantial role in supporting the core Clean Water Act programs such as stormwater permitting, TMDLS and non-point source grants.

An important issue facing the NEPs and other coastal ecosystems is the risk from the consequences of climate change.

To assist the NEPs in building capacity for local leadership and expertise in adapting to the effects of climate change, EPA recently launched the Climate Ready Estuaries Program. This new effort works with the NEPs and other coastal managers to assess climate change vulnerabilities, engage and educate stakeholders, develop and implement adaptation strategies, and share lessons learned with other coastal managers.

The success of the National Estuary Program rests in part on the collaborative nature of the program and its emphasis on the watershed approach to protect and restore coastal and estuarine resources.

In conclusion, the NEPs are a critical part of EPA's Clean Water Act strategy. They are effective, efficient, and collaborative, and they have demonstrated the value of partnering to achieve environmental results.

Mr. Chair and Members of the Subcommittee, I appreciate the opportunity to speak with you today about the National Estuary Program. This concludes my testimony. I would be happy to answer any questions that you may have.

Mr. HALL. Thank you, Mr. Hooks.

Mr. Kennedy, you are now recognized for five minutes.

Mr. KENNEDY. Good afternoon. Thank you for the opportunity. I am David Kennedy, NOAA Director of the Office of Ocean and Coastal Resource Management. My testimony is going to focus on the health of estuaries in the United States, NOAA's role in protecting and restoring estuaries, and NOAA's coordination with the Environmental Protection Agency's National Estuary Program.

The coastal environment is one of our Nation's most valuable assets. It provides foods and livelihood for people and essential habitat for thousands of species of marine animals and plants. A healthy coast is vital to the United States economy. Marine commerce and transportation, commercial recreational fishing, and tourism all depend on a vibrant coastal environment. Our coastal areas contain the Nation's most diverse, valuable, and at-risk habitats. As more of the United States population becomes concentrated, as you have already heard, along the coastline, our coastal ecosystems are being stressed. Habitat loss, erosion, pollution, harmful algal blooms, oxygen-depleted dead zones are all on the rise. The challenge to the Nation and to NOAA is to balance our use of coastal and ocean resources today with the need to protect, preserve, and restore these priceless realms for future generations.

The coasts are home to the Nation's estuaries, unique environments that are one of the most productive on earth. You have heard some of this already. Production regions, however, have experienced a decline in health. National Estuarine Eutrophication

Assessment, which is a joint report released by NOAA, EPA, and the Department of Agriculture in 2007, found that the majority of estuaries assessed show signs of eutrophication or nutrient enrichment. Most of the effects were found to be highly influenced by human-related activities attributed to coastal human populations.

The report found that overall eutrophic conditions were not significantly different, neither worse nor improved, between the early 1990s and early 2000s. However, the report predicts a worsening of conditions by 2020 in 65 percent of estuaries and improvement in 20 percent.

NOAA has several programs that work to protect, observe, and restore coastal and estuarine habitats, four of which I would like to talk about briefly today. First, the National Estuarine Research Reserve System. Recognizing the value and importance of estuaries and the dangers facing them, Congress created the National Estuarine Research Reserve System, or NERRS, in 1972. The NERRS is a network of protected areas established for long-term research, education, and stewardship. There are currently 27 sites in the network. This partnership program between NOAA and the coastal States protects more than 1.3 million acres of estuarine land and water which provide essential habitat for wildlife; offer educational opportunities for students, teachers, and public; and serve as a group of living laboratories for scientists.

Second is the Coastal Zone Management Program. The national Coastal Zone Program is a voluntary partnership between NOAA and the U.S. coastal States and territories, and it is authorized by the Coastal Zone Management Act of 1972. Thirty-four coastal and Great Lake States, territories and commonwealths have approved coastal management programs, and together these programs provide for the protection and management of more than 99 percent of the Nation's 95-some thousand miles of ocean and Great Lake coastline.

Third is the Coastal and Estuarine Land Conservation Program, CELCP. It was created in 2002 for the purpose of protecting important coastal and estuarine areas that have significant conservation, recreation, ecological, historical, and aesthetic values, or that are threatened by conversion from their natural or recreational states to other uses. To date, NOAA has worked with State and local governments to administer more than 150 CELCP grants. Twenty-seven coastal States protect more than 35,000 acres.

Finally, Community-Based Restoration Program began in 1996 under the authority of Fish and Wildlife Conservation Act. The Magnuson-Stevens of 2006 further codified the program's mandate to work with communities to conduct meaningful, on-the-ground restoration of marine, estuarine, and riparian habitat. The program provides technical and funding assistance to local, regional, and national partners to restore coastal and estuarine habitats. Projects range from wetland restoration to small dam removal, and since 1996 more than 30,000 acres of habitat have been restored with the help of national-regional partnerships and participation of hundreds of communities and individuals.

The success of NOAA's programs are built on the strength of its many national and regional partnerships. Several partners, including the EPA's National Estuarine Program and Restore America's

Estuaries, are dedicated to restoration and conservation of estuary habitats. NOAA's collaboration with NEP includes educational activities for teachers and students, local training programs, working with State Coastal Zone Management plans, CELCP acquisitions that compliment and support NEP goals and efforts of a new community-based restoration partnership with the Association of National Estuary Programs.

NOAA has a good working relationship with the NEP both at the national level and local level, but collaborations can always be strengthened, and NOAA is going to continue to reach out to the NEPs to coordinate and issue important estuaries.

Thanks again for the opportunity. I will conclude there; I know I have just passed my time.

Mr. HALL. Thank you, Mr. Kennedy.

Mr. Ribb, you are now recognized.

Mr. RIBB. Thank you, Mr. Chair, Ranking Member Boozman, and Members of the Committee. My name is Richard Ribb. I am Director of the Narragansett Bay Estuary Program and I also serve as the Chair of the Association of National Estuary Programs, an umbrella for all 28 NEPs. I would like to express the appreciation of all those programs for our opportunity to be here today.

As you heard from Mr. Hooks, there is a lot of value to our estuarine systems and there are a lot of challenges facing them. I think my job here is more to talk about the role of the National Estuary Programs in addressing those challenges.

The National Estuary Program was created by Congress in a far-sighted piece of legislation. Senator John Chafee from my area was one of the guys who was involved in developing that back in the mid-1980s, and the unique thing about it is that it required an inclusive stakeholder approach to dealing with problems in an estuary.

There has been strong and sustained congressional support for the National Estuary Program and it has allowed the program to be a front-line response to the pressures on our coastal ecosystems for over 21 years. One of the successes of the program certainly is due to its non-regulatory approach. It provides a neutral forum for people to discuss issues and come to agreement on solutions. Many interests are brought together to create long-term management plans called Comprehensive Conservation and Management Plans, or CCMPs. All of the programs have gone through this process of creating these stakeholder-based plans.

I did want to emphasize that we are now in the implementation phase and the programs are engaged in implementing those plans, revising them as necessary.

The NEP takes a comprehensive ecosystem approach to addressing a wide range and takes on a number of different roles in working with partners to work on the habitat restoration, protecting water quality, watershed management techniques. The program has pioneered working on strategies for invasive species, harmful algal blooms—the list goes on—and reflects the interrelated nature of these problems.

Through the two decades of experience, the NEP has served as an effective and adaptive model for developing solutions to complex environmental problems. I would also like to emphasize a lot of the

lessons learned for the program are not something that is for the use only in coastal programs that are interior and other watersheds. There is a tremendous amount of lessons learned that can be transferred.

The program works, I would just like to remind you, on what we call operating principles. The stakeholder-based approach. These plans are a collective stakeholder vision and solutions for the estuaries. A collaboration with partners is the cornerstone of how these programs work. The collaborative model provides a significant opportunity to leverage local-State foundation, private sector funds. I think one of the interesting and important parts of the NEP is the private sector involvement in developing these solutions. We work to increase the scientific understanding of key issues like climate change, like sea level rise, shoreline development. We work to ensure that our management decisions are based on good science and have developed techniques to bring together both coastal managers and the research community to bring those discussions to some applied science solutions.

As I mentioned, we provide a neutral forum. Another unique aspect is trying to find meaningful opportunities for public involvement, whether it is through actual engagement in activities like volunteer monitoring or whether it is really trying to keep people informed and engaged in what is going on. I would also like to emphasize that NEPs are community-based networks. We have now a significant history of working at the local level. We have built trust. We have good relationships with the working partners, and part of that allows us to, I think, help to be a delivery mechanism for many of the Federal programs that our partners here at the table are engaged in.

In my written testimony are examples of history of environment results. We have reduced nitrogen inputs to estuaries, have worked with partners to restore habitat. Like I said, if you refer to the written testimony, there are many, many examples in there.

In terms of reauthorization of the program, we think it is important to retain the stakeholder-based non-regulatory approach. We think it is important to ensure that the Section 320 funding that is authorized under Congress is directed to those local implementation activities. That is where the results are being made.

We would like to ensure that our Federal partners look at these local priorities that have been set and use that work, as opposed to when they are instituting new institutions, new initiatives, look our local priorities.

I have run out of time. I thank you all for the opportunity to speak to you and I would be glad to answer any questions.

Mr. HALL. Thank you, Mr. Ribb.

Mr. Benoit, you are now recognized for five minutes.

Mr. BENOIT. Thank you. Good afternoon, Chairman Hall, Ranking Member Boozman, and Members of the Subcommittee. I am Jeff Benoit, President of Restore America's Estuaries. I am pleased to be here today to discuss our comments regarding coastal and estuarine protection and restoration, specifically reauthorization of the National Estuary Program.

We strongly urge the reauthorization of this program. Before I present our recommendations, I would like to provide you with a

little background about our organization, Restore America's Estuaries.

Our mission is to preserve the Nation's network of estuaries by protecting and restoring the lands and waters essential to the richness and diversity of coastal life. We are a national, non-governmental alliance of 11 community-based organizations. You previously heard from Kathy Fletcher, the Executive Director of People for Puget Sound, one of our member organizations.

Restore America's Estuaries is results oriented. We join with many partners and local volunteers to conduct restoration projects with lasting benefits. Since our creation, we have invested over \$30 million in local restoration projects, restored more than 56,000 acres of estuarine habitat, we have mobilized more than 250,000 volunteers, and we convene the largest biennial national conference for the coastal restoration community.

My written testimony includes detailed information about the importance of estuaries and the growing threats be they face, so I will only mention one new aspect of estuaries that is emerging as a clear issue.

In 2006, Restore America's Estuaries convened a panel of experts to help us understand the economic and market value of coasts and estuaries. The culmination of their work is the report entitled *The Economic and Market Value of Coasts and Estuaries: What's At Stake*. I have provided you a copy of the executive summary of that report. The report clearly shows that, yes, the economy is linked to the environment.

Now let me turn my attention to the National Estuary Program.

Congress was farsighted in establishing the National Estuary Program in 1987 because it directed the local NEPs to be stakeholder-driven and to take a watershed-based ecosystem approach. This is a unique niche and local NEPs generally fill it quite well, largely through collaboration and partnerships. The 28 NEPs across the Country have tackled complex water quality issues and, to varying degrees, have achieved on-the-ground environmental results, secured and leveraged funds, improved public education about estuaries, and engaged communities and stakeholders.

Some of the following six recommendations may seem by a few individuals as already occurring, but providing consistent application, codifying them across the system of local NEPs will improve the program's overall effectiveness.

Recommendation number one: It is critical that the NEPs have continued authority and strengthened capacity through reauthorization and additional funding to update and implement their CCMPs. One of the fundamental issues preventing the National Estuary Program from being as effective as it could is insufficient funding to revise and update the CCMPs or to adequately support implementation activities.

Recommendation number two: Formally embrace the concept of adaptive management. Local NEPs should employ an adaptive management approach by determining the effectiveness of their actions through monitoring and analysis of environmental data, and then modify those actions if they are not achieving the desired results.

Recommendation three: Provide for a public process to generate annual strategic priorities that identify way to best target limited time and resources. The local NEPs need to remain agile, current, and adaptive so that they can strategically address new issues as they arise. Rather than waiting for a CCMP, sort of their blueprint for the estuary, to be revised, annual work plans that the NEPs develop as a requirement of the annual EPA funding could be used in a more strategic way to focus and prioritize the issues identified through the CCMP.

Recommendation four: Establish habitat restoration as a national priority to be incorporated into all CCMPs and annual work plans.

Recommendation five: Provide for a technology transfer program to other watershed groups to highlight what has worked with the NEPs.

And, finally, recommendation six: Include a very specific provision that encourages regional collaboration among local NEPs to advance regional approaches to management. This collaboration should be fostered and supported by EPA.

I want to thank you for the opportunity to address you today. I would be happy to answer any questions you may have.

Mr. HALL. Thank you, Mr. Benoit.

Mr. Carlin.

Mr. CARLIN. Thank you, Chairman Hall, Ranking Member Boozman. I am glad for the opportunity to appear before you today. My name is Michael Carlin. I am the Assistant General Manager for Water for the City and County of San Francisco. In that role, basically, I serve water to 2.4 million customers in the Bay Area—most of those are located outside of San Francisco—I manage 60,000 acres of watersheds in the San Francisco Bay Area, and I have a long-term partnership with the Federal Government because our primary source of water is located on Forest Service's and National Park Service lands.

I am here today really to talk about three things, what I call the three "Ts": integration, innovation, and inspiration. What does the estuary program, specifically the San Francisco Estuary Project do for me working for local government?

One of the things it has done for me is basically the creation of the regional monitoring program. A question was raised about how do you measure performance. You don't know how much pollutants you can reduce until you know how much pollutants are actually present in the environment. So one of the early activities of the San Francisco Estuary Project was creating a regional monitoring program, which is now paid for by entities such as myself, because we want to know how much pollution is out there, and our efforts to clean up that pollution, is it having a long-term effect.

This has branched out into habitat goals along the edges of the bay. Why is this important to me? Well, I just did a cleanup. It cost \$24 million on the edge of the bay, and I wanted to know which type of habitat should be the restoration goal. It was an effective tool to have the habitat goal program in place. It was an effective tool for us to drive the cleanup that took place.

Finally, there is a program looking at fisheries restoration. Steelhead is an important issue amongst all coastal and estuarine streams. One of the things that we have done is identified what are

the primary streams that should be restored. We could put a lot of money into a lot of little streams, but where is the low-lying fruit? One of those is Alameda Creek, which basically is a watershed managed by the City and County of San Francisco in another county. We are looking at steelhead passage. We have already voluntarily removed two obsolete dams, and we are looking at partnering with other stakeholders in that watershed on long-term solutions, and these include both State, Federal, local governments and investor-owned utilities and others.

The second thing I wanted to talk about was just innovation. We have talked about climate change in many forums and at many different levels. I share the Chair's views about climate change. They are real and we need to be innovative in order to address them. This is an issue that has risen to the forefront of the San Francisco Estuary Project. It is one that is happening and we need to come up with solutions now. We don't have all the science, though. One of the things that we have done as a water utility is form an alliance with other water utilities across the United States, including New York, Seattle, and those down in Southern California, to help guide or drive where the science needs to take place.

Right now, climate change is done on a global scale. We need to drive it down to a watershed scale. That is the only way that we are actually going to come up with adaptive management strategies. We also need to have a no-regret strategy so that things we do today we don't start regretting tomorrow. It is important that we have that because we are investing people's dollars.

There was a mantra in the 1960s. A call arose basically to save San Francisco Bay. I don't want, in 2060, basically the call to be "Save us from San Francisco Bay" as it rises.

Finally, inspiration. Community involvement is a keystone of the San Francisco Estuary Project and the National Estuary Program. It reaches out; it develops an atmosphere of collaboration and co-operation. The information that is put out by the estuary project is one that receives wide circulation. One of the things that we need to do using the estuary project is to basically mentor the next generation of environmental leaders. A lot of the people that are attracted to things of this nature are our next environmental leaders, and I look towards the estuary project basically for my employees.

Reauthorization is important. The project works; it brings people together who are driven to find solutions. They are not trying to blame each other. The emphasis should be that we try to align more along the Federal agencies, align amongst themselves to help us in the local entities.

Finally, basically, the continued increased funding is necessary for the National Estuary Project and San Francisco Estuary Project because it provides a unique perspective to issues that individually, as local governments, may not have.

Thank you very much, Mr. Chairman.

Mr. HALL. Thank you, Mr. Carlin. I will recognize myself for a round of questions.

It is saddening and disturbing to me that the overall water quality scores in the northeast could stand significant improvement. I cannot help but think that part of the cause is that many of our

sewer systems in this region are old CSO or SSO systems that spew untreated sewage into our waters when they are overwhelmed. Unfortunately, upgrading these systems is costly and the Revolving Loan Fund resources are scarce.

Would providing more Clean Water Act State Revolving Loan Fund resources help to meet these NEP goals, Mr. Hooks?

Mr. HOOKS. Well, I am never one to turn down resources, so I think the answer is yes. Clearly, that is a fund that has actually gone down over the years. I think one of the benefits of the National Estuary Program, in addition to the State Revolving Fund, is its ability to attract funding from a variety of sources. As I mentioned earlier in my testimony, the NEP's ability to leverage resources has been one of the hallmarks of success of the program, and I think part of the reason for that is largely due to the fact that these NEPs have demonstrated on-the-ground success by improving the environment.

I think one of the other things that the NEPs have also done is generate trust over time. One of the things that I have noticed since I have been associated with this office is the collaborative nature of the partners that are working around the table. I think it is that ability for this long-term, extended partnership over many years that has enabled people to trust the partners within the NEP and, as a result, over the past few years resources outside of the Federal Government have continued to increase.

So I think it is a combination of Federal resources, State, local government, and private sector resources that are actually going to get us there ultimately.

Mr. HALL. And, Mr. Hooks, would you say that the framework established by the NEP is robust enough to address today's merging estuary stressors, such as climate change, urban stormwater, and significant population increases?

Mr. HOOKS. I think one of the strengths of the NEPs is their ability to adapt to these emerging issues. Many of the NEPs that I have visited are at the forefront of trying to address some of these new emerging issues.

One of the things that we recently launched within our office is the Climate Ready Estuaries Program. Having talked to some of the coastal zone managers and some of the NEP directors from around the Country, I think they are starting to recognize that climate change is a very real issue, particularly associated with sea level rise. One of the things that we hope to be able to do is to put some additional tools and data in their hands for them to make wise and efficient management decisions, and also conduct vulnerability assessments so that ultimately they can develop adaptation strategies that they can implement and share with other coastal zone managers in the rest of the Country.

Mr. HALL. Thank you.

Mr. Ribb, would you like to respond to that question?

Mr. RIBB. I know that a lot of the programs that I am in contact with through the National Estuary Program have a strong applied science component, and understanding the impacts of climate change, there is a lot that we are going to need to understand. We are starting to look at, in my system, the different ways that nitro-



gen is being cycled within the Bay, not just from us reducing it, but what is happening.

Are there changes in the food Web that are affecting fisheries, that are affecting the way nitrogen is taken up? I think that is something we are going to need to track on a larger scale to understand and to make those good management decisions about what we do with our treatment plants and what we do with our non-point sources. So I certainly advocate for making those science questions better understood.

Mr. HALL. I would like to ask all of you, and maybe starting from Mr. Carlin and working back across the panel, to answer this one. Given the limited resources available to the Federal Government, we want to encourage cross-agency coordination in order to achieve the maximum results through the most cost-effective means.

Is this taking place with our coasts and our estuaries? For instance, through the EPA's National Estuary Program, is coordinated planning and implementation taking place between the local stakeholders and all the primary Federal agencies—EPA, NOAA, USDA, Fish and Wildlife Service, and the Corps of Engineers? Is there a mandate that these Federal agencies coordinate to prioritize projects and help clean up our coasts and our estuaries in the most cost-effective fashion?

That is a long question, but you can start, if you would, Mr. Carlin.

Mr. CARLIN. Could I give you the short answer?

Mr. HALL. Sure.

Mr. CARLIN. No. I think there is opportunity to provide greater coordination. I think that the agencies have different mandates, and sometimes they are conflicting mandates and they need to be harmonized. I think that one of the things that we have been able to do is creation of these comprehensive conservation and management plans is to try and create that harmony of those different mandates. What we need to do is actually get the Federal budgets lined up to actually have implementation take place on a coordinated scale rather than on an individual agency scale. Thank you.

Mr. HALL. Mr. Ribb?

Mr. RIBB. I would say that the issue of local priorities, there is requirement that there is coordination between, for instance, the NOAA programs and the National Estuary Program, CCMPs. I think a lot of the coordination gets done through personal relationships, it gets done through what is happening at the local level. I am very fortunate in that I have long and close working relationships with our local and regional NOAA people, with our CZM programs, with our NERRS program, so we are fortunate in that.

But I think my comment about getting, at the sort of next level up, the Federal agencies to pay attention to what the local people have already determined that these are the priority activities so we don't have Federal initiatives coming in that are out of sync with what has been identified at that estuary level.

Mr. HALL. Thank you.

Mr. Benoit, I am sorry, I skipped over you.

Mr. BENOIT. That is okay. I think the coordination occurs at varying levels as you look at the different estuaries, and what is really nice about the NEP program is that it provides the forum

to be able to engage others outside of just EPA in the discussions around what needs to be done and who is going to take some responsibility for actions to protect or to clean up the estuary.

But for the NEPs I think the real crux is to ensure that they have the resources, the funding available to maintain that forum. As I was preparing testimony for this hearing, talking to a lot of NEPs and a lot of individuals who participate in the planning process in the NEPs, their concern is that the funding just isn't adequate for some of the NEPs to maintain a current blueprint for their estuary; it isn't adequate for them to be able to look towards implementation activities, which they need to bring some of those resources to the table to get other players to the table as well.

So I think it is occurring to varying degrees in the different estuaries.

Mr. HALL. I guess I would add to the question, as we go down the table: is there coordination between the Corps of Engineers and USDA, where a lot of the significant dollars are comparatively speaking? Is that happening?

Mr. Kennedy?

Mr. KENNEDY. I think, first of all, we can do a lot better. I don't think there is any question about that. I certainly endorse the theme that you have heard at the local and regional level, sometimes the coordination really is better than at the national level.

But I think at all levels what we are seeing is that the problems that you have heard about, that I think you are all pretty familiar with, now compounded by the emerging climate change issues and the beginning of these discussions of tipping points with all of the stressors the estuaries have already had now added to climate change, that we are driven—none of us have enough resources to begin to handle what are just—I think we are in crisis mode, or pretty close to it.

So I think, as a result, we are probably doing more coordination than we have ever done before because, if we don't, individually we just don't have the resources and/or, in many cases, the expertise or the mandate to begin to address the huge problems that we are having.

But I think at the national level—and this was mentioned as well—we have different jurisdictions, different Committees that are guiding different components of those Federal agencies that are working there. That does complicate the coordination, but I think it is getting better. In particular, there is, I think, some emerging discussions that certainly, say, five years ago we didn't have with, in particular, USDA and the Corps. These things are happening a lot more frequently than they used to, so I am encouraged that we are doing a lot better, but we could still do a lot better than we are doing.

Mr. HALL. That is good news. Thank you for telling us that.

Mr. Hooks?

Mr. HOOKS. I would agree with Mr. Kennedy. I think we can do better. I think there are many examples at the local level, very good examples where the Federal agencies actually are coordinating.

One of the things that I would like to see is better coordination at the national level. For example, you mentioned USDA, particu-

larly the resources associated with the Farm Bill. We work very closely with the USDA on nutrient reduction, and one of the things that I certainly would like to do is to target those resources a little bit more effectively; especially to look at some of the high-priority watersheds, some of those watersheds that are the major contributors of nitrogen and phosphorus to the environment. So coordinating our efforts better at the national level is one of the my priorities that I want to pursue.

Working with the Army Corps of Engineers on the 404 permitting issues, I think certainly we can always improve that relationship. There are certainly opportunities for improvement there and I think we are doing that better at the local level than perhaps at the national level.

But these are very complex ecosystems and, as a result, it requires a lot of different players to come to the table. We are constantly discovering new people and new actors that should be involved, particularly as new issues are starting to emerge—climate change, pharmaceuticals and personal care products, what have you. New people are constantly coming to the table and I think having the existing National Estuary Program, the existing management conference or the existing stakeholders already at the table really facilitates our ability to address some of these problems quickly.

Mr. HALL. Thank you, Mr. Hooks.

I will now recognize the Ranking Member, Mr. Boozman.

Mr. BOOZMAN. Thank you, Mr. Hall.

I appreciate your testimony. I think it has been very good. The last panel shed some insight. We have talked a lot about climate change, and certainly that is something that is upon us and will be more so in the future.

But when you look at these areas, you know, they have suffered some significant problems many years ago, and, to me, the real culprit, the thing that we have to manage is growth somehow, and that is a very, very difficult thing to do. I mean, it is easy for us to talk about climate change and we all agree. That is kind of this nebulous deal out there. But when it really gets down to it, how do you manage the stormwater runoff? How do you manage the lack of drinking water? As you suck that fresh water out what that does to the rest. Those kind of things.

So I would really like for you to talk a little bit about that because that is upon us now and has been in the past, and I think is responsible for a lot of the problems that we have going on. So how do you deal with things like stormwater runoff? Is that the Federal Government's responsibility, is that the city's responsibility? Somebody mentioned—I think Congressman Hall did—the aging infrastructure of any community that has been around for 100 years. Much of the pipes and the sewer system that are there are still there from the original, when they laid the pipes.

So, if we would, could we just talk with just a little bit of insight?

Mr. HOOKS. Absolutely. I am glad you mentioned that. The top issue that you are going to hear from most of the NEPs is not going to be climate change, it is going to be habitat loss, I think in large part due to development. That is probably the number one pressure that the NEPs are actually trying to deal with. I think one of the

things that we try to stress, at least from the national level, is instituting smart growth principles so that we grow smarter closer to our coastline.

One of the other things that we have been actively engaged in, is instituting some low-impact development practices that Congressman Dicks just mentioned earlier about vegetated swells and rain gardens and green roofs, trying to implement those types of practices. We are pushing that at the Federal level, but that is also being pushed at the State level and local levels as well.

We are starting to see local ordinances that mandate some of these types of practices. We are starting to see organizations actually give out awards for cities and communities that are instituting these types of practices to reduce stormwater runoff. It is a very real and serious problem that most of our coastal communities, particularly our coastal communities along large urban centers, are really struggling with.

Mr. KENNEDY. Complex issue. You can address it from all different levels, so I will just take a little bit different spin here. I think education of the public is probably one of the most important things. Obviously, you have got all the infrastructure, the aging infrastructure, the new infrastructure, the development, but unless you have a real public will to change some of the practices that have been long established, that aren't working but are long established and maybe not as well appreciated and understood by the public, you are not going to get some of the changes you want.

We spent a lot of time over the last couple of years going around the Country talking with, in particular, local and regional folks about coastal zone issues and, in particular, water quality and water management, and one of the things we have heard routinely is that the local governments, county governments, sometimes don't have the resources, the expertise and the information to combat some of the development that takes place.

So one of the things that we have been trying to do beyond just educating the public in general, and we have through our estuarine reserve programs and coastal zone managers and others, extensive programs just to provide the kind of background information about do you know what is happening to your sewage and what the importance of that is, is trying to arm the count, city, local planners with the kinds of expertise and information that they need to counteract some of the development that has gone on that we think potentially went on because they didn't have the tools in their arsenal to effectively maybe deflect or defend an opposing point of view to some of the development that has occurred.

Many, many other things we could discuss, but I will stop there.

Mr. RIBB. I think the local communities are the place where some of this has devolved down to through the phrase two stormwater requirements, and I know in our watershed in Rhode Island and Massachusetts communities are kind of struggling with what to do with that, and the States are a little behind the ball on that, I think, in providing them with the assistance.

I was just involved in an EPA review of the Casco Bay Estuary Project, and what is really heartening to me to see up there is that the municipalities have organized to deal with these issues and they are not waiting for the State. There is a watershed that drains

to the Casco Bay. There are 19 communities that created an inter-governmental group that our NEP up there is supporting, providing them with technical assistance, and they are looking at we are bringing in folks to discuss stormwater utility districts because we think the States seem to be of a mind that that is a direction we are going to have to go if we are going to fund these things. The retrofits in the northeast are going to be a big issue for us.

But I am heartened to see that the communities are kind of taking the lead in some of these areas.

Mr. BENOIT. I think trying to control growth requires some very difficult decisions to be made generally at the local level, and typically when you see those kind of tough decisions being made, you really need to have a lot of community support behind those decisions to see them carried through.

One of the reasons that we are so engaged in habitat restoration is it is an opportunity to bring the community to the very areas that they care about and to educate them and remind them of how important those areas are. When you see 200 volunteers, families, Boy Scouts, Girl Scouts show up to replant vegetation or to return shellfish to the Bay, or to help restore a fish run that hasn't been there for 125 years, all of those people care passionately about that region and that area once they have been there and re-experienced the restoration; they have been part of it, they care about what they have done, and we see that as a very powerful tool to engage the communities to care passionately about those resources and then willing to hopefully make some very tough decisions and stand by them.

Mr. CARLIN. It's a great question.

Mr. BOOZMAN. It is one that I am sure you have had countless hours, years of experience dealing with.

Mr. CARLIN. Oh, absolutely. Start off with basically land use decisions or local decision-making processes by elected officials at the local level. What we have been working on basically, in conjunction with the project and others, is how do we get into the planning codes the proper sort of requirements so that we don't have these insults to our environment in the future that we have today, and that is the key. You talked about legacy pollutants. What we have been worried about is the emerging pollutants that are going to come from new development or from emerging products.

So you need setbacks along waterways. You shouldn't be building in flood plains. You can help. The Federal Government has flood protection programs. We need to have sort of greening basically as part of our mantra in our building code. There are opportunities that we are looking at in San Francisco to capture our stormwater and reuse it. We should be doing that; it offsets importing potable water that can be used for population growth in the future.

It is an interesting statistic that in the Bay Area the population has increased by 19 percent and potable water use has only increased by 1 percent. That is because of conservation, recycled water, and other alternative sources.

So we need to look at all those things. Stormwater is going to be an important part of my water portfolio in the future, and I need to get into that business, and that is what I am doing.

Thank you.

Mr. BOOZMAN. Very good.

Thank you, Mr. Chairman, and thanks to the panel.

Mr. HALL. Thank you, Mr. Boozman.

If I may, I would just like to ask Mr. Kennedy and Mr. Benoit a question. I think you both mentioned dam removal in your testimony. Occasionally we come upon two worthy objectives that seem to be at odds with each other. In my State of New York, there are, according to the Department of Energy's Idaho National Laboratory Website, 4,000 small dams and waterfalls and potential low-head hydroelectric sites which were either natural features or which were built to drive industries that are no longer there, like the Cantine Paper Mill Dam in the town of Saugerties.

It is now just sitting there. It is probably not going to come down because the town's swimming area is upstream from it, along with boating. Eventually the Soapus Creek turns into a fabulous fly fishing creek as it goes upstream. And below the dam there are marinas and restaurants and homes, so even though it is a 70 feet tall, maybe 300 feet long spillway with tons of water a second coming over it that could supply power. In fact, those 4,000 sites are estimated by DOE to be a latent 1200 megawatts or more if generating turbines are just put where the water is falling and wired into the grid.

So I am wondering whether you have had, in your experience, any conflicts between dam removal and the use of this renewable energy source? This could help us in a small way to reverse or slow the advance of climate change. I imagine the further away you get from a big body of water, the less of a problem that is. But there is always a fishery that has, at some point, been disturbed.

Mr. Kennedy?

Mr. KENNEDY. I was going to deny that I had anything in there in my testimony about dams, but now that you mention it, there is something; it is an organization that I don't represent that has been doing that work. I would be happy to get back with you with a further response that is much more comprehensive, but the little that I do know is, yes, there is a tradeoff when you do these things, and in most cases that I am familiar with the community is definitely involved. This is not the kind of thing that is done without some community commitment and involvement.

And the tradeoff is we have had a loss of habitat, a loss of the productivity of a fishery, and does that outweigh whatever other beneficial uses we might have gotten from the dam. And in the cases, again, that I am familiar with, with the community and the other agencies' fairly thorough analysis, there is a cost benefit that says that to create the new habitat for the fishery, that particular aspect outweighs the other loss that you are going to get. But that is as far as I can take the answer.

Mr. HALL. Mr. Benoit?

Mr. BENOIT. I think Mr. Kennedy really presented that response quite well. The only thing that I will mention, perhaps, in addition is that they don't necessarily have to be large functional dams, they can be very small, a matter of a couple feet high; and that is all it takes to block the passage of fish.

I had the opportunity last year to visit one of our member groups in Connecticut and Save Long Island Sound, where they had a

small, old—from the 1800s—water supply pond that was created for a local community, and the fish had not gone beyond the dam that they created for over 125 years; had no way to get up into the upper reaches of the pond or the other small streams that were above that and beyond it. So the community, through our program and a lot of partnerships, created a fish run or a fish ladder to bypass the dam.

The people in the community didn't want to take the dam down; it was a very sort of picturesque little area, but they wanted to restore the fish run. So they built a ladder that the fish could actually swim up as the stream came down the ladder, with the plans of re-establishing fish in the pond the following spring so that they could re-establish the fish run. Lo and behold, the following spring, when they went to see what happened, the fish were already using that ladder for the first time in 125 years, coming back up the stream, using the ladder and going up in the upper reaches of the pond. First time in 125 years.

So in some cases there are opportunities to recreate the habitats and the opportunity to get those fish and those resources back up where they used to be. Very little expense; great community interaction. A lot of volunteers turned out to help make that work and lots of partnership together are able to make it happen.

Mr. HALL. Well, that is encouraging to hear, and also to think that it can be done at the same time that the energy can be obtained as well, because God knows any energy source that is free and has no emissions is one that we need to think carefully about before we get rid of it. In my district, Swinging Bridge Dam is a small, low-head hydro site. We just had the owner, a company that just bought it, fill the penstock with cement to prevent it from being used to generate power, and I think that that is the kind of thing that we ought to be preventing.

I am all for fish runs being restored, but I also think there is no source of energy that does not have an impact. You are either going to have coal miners dying underground, nuclear waste, wars in foreign lands that have oil, windmills in your view shed, dams where you might like to have your fishery back. We have choices that we need to make and, unfortunately, you have to prioritize what we, as a community, as a Country, think are the least impact or the least negative impact.

I want to thank all of you for protecting the oceans. My father taught me, when I was five, to sail on Codiunk Island off the coast of Massachusetts, and I have sailed and swum and probably accidentally drank some of the salt in—

[Laughter.]

Mr. HALL.—and fresh water in Narragansett Bay and in Buzzards Bay and the Chesapeake and San Francisco Bay, and it is my honor to represent a district that is divided by the Hudson River, which is an estuary which is tidal all the way to Troy, north of Albany. We are seeing it getting cleaned up from human waste when we found out that PCBs had been dumped for years up at Fort Edward by General Electric into the river, and now the whole Hudson River is a Superfund site.

So there is continuing work to be done, but, Mr. Hooks, I thank you for bringing up, the issue of smart growth, because that is

what we are hearing from our elected officials on both sides of the aisle, regardless of political persuasion. They have started to connect the fact that we had three 50-year storms in the last five years in our district that caused flooding on the Delaware that nearly sank the Wallkill, the 10-mile river that runs through my hometown of Dover Plains on the other side of the river.

And as we look across the Country at the flooding currently happening in the Mississippi Valley and Cedar Rapids, the city that never floods, being under 12 feet of water, and examples of other extreme weather events, I think it is clear that a couple of things are happening or need to happen. One is that we all need to educate ourselves and our neighbors and friends about climate change and also about smart growth. It is, in part, by restoring those wetlands and grasslands and forest lands and natural retention areas that will hold water in the event of an extreme rain event that we can deal more effectively with these wet weather events. This is as opposed to putting in so much pavement and roofs and impervious surfaces that they dump that water immediately into the streams and raise the flood levels immediately. That is one thing that we need to do.

The other is to roll up our sleeves and agree on some way of trying to slow the change in our climate by reducing CO2 emissions.

So we certainly have our work cut out for us. We thank you for your testimony and your patience.

Mr. Boozman, if you have no further questions, thanks again for your expertise. I look forward to speaking to you again.

This hearing now stands adjourned.

[Whereupon, at 4:13 p.m., the Subcommittee was adjourned.]



**STATEMENT OF  
THE HON. JOHN BOOZMAN  
HEARING ON  
“PROTECTING AND RESTORING AMERICAS GREAT  
WATERS – PART 1: COASTS AND ESTUARIES”  
June 26, 2008**

- The Subcommittee is meeting today to hear testimony about a long-standing program under the Clean Water Act that is aimed at helping to restore and protect our nation’s coasts and estuaries, the National Estuary Program.
- Estuaries are unique and highly productive waters that are important to the ecological and economic bases of our nation.
- Fisheries, wildlife, recreation, and tourism are heavily dependent on healthy estuarine systems.
- Yet, despite their value, most estuaries in the United States are experiencing stress from physical alteration and pollution, often resulting from development and rapid population growth in coastal areas.
- In the 1980s, Congress recognized the importance of, and the need to protect, the natural functions of our nation’s estuaries.
- As a result, in 1987, Congress amended the Clean Water Act to establish the National Estuary Program.

- The National Estuary Program identifies nationally significant estuaries that are threatened by pollution, land development, and overuse, and provides grants that support development of Comprehensive Conservation and Management Plans to protect and restore them.
- The Program is designed to resolve issues at a watershed level, integrate science into the decision-making process, foster collaborative problem-solving, and involve the public.
- Unlike many other EPA and State programs that rely on conventional “top-down” regulatory measures to achieve environmental goals, the National Estuary Program uses a framework that focuses on stakeholder involvement and interaction in tailoring solutions for problems that are specific to that region, in order to achieve estuarine protection and restoration goals.
- Since its inception, the National Estuary Program has been a leading example of a collaborative institution designed to resolve conflict and build cooperation at the watershed level.
- Today, the National Estuary Program is an ongoing, non-regulatory program that supports the collaborative, voluntary efforts of stakeholders at the Federal, State, and local level to restore degraded estuaries.
- Currently, there are 28 estuaries in the National Estuary Program, and all are implementing restoration plans developed at the local level through a collaborative process.

- The National Estuary Program has been beneficial in improving and protecting the condition of the estuaries in the Program, and the Program shows that a collaborative, voluntary approach can provide an alternative to a sole reliance on traditional, command-and-control mechanisms.
- For example, EPA reports that the National Estuary Program has protected and restored over 102,000 acres of estuarine habitat since 2007, and one million acres since 2000.
- We need to be sure that the individual estuary programs continue to effectively implement their Comprehensive Conservation and Management Plans for protecting and restoring the estuaries.
- We need to be careful not to add new layers of programmatic bureaucracy on the programs that could divert valuable resources away from implementing their plans.
- I look forward to the testimony of our witnesses today and hearing about how the National Estuary Program is working well and ways the Program can be further improved.

**OPENING STATEMENT OF  
THE HONORABLE BE RUSS CARNAHAN (MO-3)  
HOUSE TRANSPORTATION & INFRASTRUCTURE COMMITTEE  
WATER RESOURCES & ENVIRONMENT SUBCOMMITTEE**

**Hearing on  
Protecting and Restoring America's Great Waters, Part I; Coasts and Estuaries  
Thursday, June 26, 2008**

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Chairwoman Johnson and Ranking Member Boozman, thank you for holding this important hearing on protecting and restoring our coasts and estuaries.

As coastal areas surrounding estuaries are some of the most populated areas in the country, more emphasis must be placed on protecting and restoring them because of the high level of pollution, land development, and overuse of many of our estuaries. All of these can degrade water quality and limit an estuary's productivity.

For over twenty years the National Estuary Program has helped communities across the country promote comprehensive planning efforts to help protect estuaries that are considered to be threatened by pollution, development, or overuse. More must be done to protect our nation's estuaries. The Environmental Protection Agency's most recent National Coastal Condition Report gives an overall rating of fair for the nation's coastal resources. In order to ensure continued success of the National Estuary Program and make improvements to the coastal regions we must provide adequate funding to the program. That is why I am truly disappointed the President has again requested to cut funding for this program by more than half.

Although each estuary and coastal area is unique each will be impacted by climate change. Changing sea levels, precipitation levels, and ocean temperatures could all cause adverse impacts on our estuaries. Therefore, it is critical for us to take into account climate change as we look at ways to sustain the productivity and maximize the utility of our nation's estuaries.

In closing, I would like to thank our witnesses for joining us today and look forward to hearing their testimony.

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A handwritten signature in black ink, reading "Be Russ Carnahan". The signature is written in a cursive, flowing style with a large initial "B".

STATEMENT OF  
THE HONORABLE JERRY F. COSTELLO  
SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT  
HEARING ON PROTECTING AND RESTORING AMERICA'S GREAT WATERS, PART I: COASTS  
AND ESTUARIES  
JUNE 26, 2008

Thank you, Madame Chairwoman, for holding this hearing on protecting and restoring America's waters, in particular coasts and estuaries.

Madame Chairwoman, the EPA is tasked with being the nation's primary "protector" of the environment and many of our greatest natural resources, including coasts and estuaries. EPA has a variety of programs to assist local stakeholders implement management plans for protecting these resources. The EPA's National Estuary Program is one of them and I am interested in hearing from our witnesses if they believe any changes need to be made to this or other programs to ensure our coasts and estuaries remain clean and healthy.

As a life-long resident of a Great Lakes state, I am well aware of the importance of these vital natural resources to the economic health and well being of our state. I am pleased that this Subcommittee continues to explore these issues. I welcome the witnesses here today, and look forward to their testimony.

**STATEMENT OF  
REP. NORM DICKS  
BEFORE THE  
SUBCOMMITTEE ON WATER RESOURCES AND  
ENVIRONMENT  
OF THE  
COMMITTEE ON TRANSPORTATION AND  
INFRASTRUCTURE  
UNITED STATES HOUSE OF REPRESENTATIVES**

**June 26, 2008**

**I want to thank Chairwoman Eddie Bernice Johnson and Ranking Member John Boozman and the other Members of the Water Resources and Environment Subcommittee for holding this hearing today on “Protecting and Restoring America’s Great Waterways.” And I want to thank you for allowing me to appear before you today and for having a panel of distinguished witnesses that will discuss ongoing efforts to rescue Puget Sound in my native Washington State.**

People in the Pacific Northwest are proud of the high standard we have set for environmental stewardship in our region. Long before Earth Day there was an ethic of environmental activism in our area that resulted in the cleanup of Lake Washington, the large body of water on the eastern border of the City of Seattle. When I was young I can recall the “No Swimming” signs posted all along this beautiful lake, warning us that the water was too polluted for recreational use. The communities around the lake adopted a farsighted plan to curtail discharges into the lake and, with bonding authority and working over several years, they succeeded in restoring the lake to what is now considered a pristine condition. Again, this was long before the wave of environmental activism took hold in our country, and at a time when these changes could be made before the metropolitan area experienced the robust growth it has seen in the past three decades.

So this is the history and tradition that represents the foundation of our current concern over the health of Puget Sound, the nation’s second largest estuary, that today is at risk because of the challenges of growth-related pollution. I regret that a growing number of studies in recent years have painted a disturbing picture of this great waterway in decline. The Environmental Protection Agency has been involved in the research effort for more than 25

years, since Puget Sound was listed on the EPA's initial National Priority List under the Superfund law in 1981. We have seen an increase in toxic substances in the water, low levels of dissolved oxygen that kill marine life, the listing of salmon species and orcas under the Endangered Species Act, and the closure of many shellfish beds due to unhealthy conditions. Throughout those years, specific problem areas around the Sound were subjected to remedial actions as research continued to look at the broader condition of the entire ecosystem. It has always been my view that we needed such a broader view and a more national focus that could address the entire maritime environment without focusing on jurisdictional issues – much like the Chesapeake Bay cleanup program that was begun in the 1980s.

In 2006, our Governor Christine Gregoire created the “Puget Sound Partnership” as a working group to develop an action plan to restore the Puget Sound to health by the year 2020. I served on the Partnership and attended nearly 20 days of meetings during that year in which a diverse group of people worked through numerous issues to develop consensus recommendations, which were then forwarded to the Governor at the end of 2006. Taking these recommendations, Governor Gregoire then asked the State Legislature to enact many into law. One of the main achievements



was the creation of a new State agency to oversee these recovery efforts. This new State agency assumed the Puget Sound Partnership name and it is now the official state entity under the EPA's National Estuary Program. The Partnership is a model of inclusiveness, featuring participation by local government, Tribes, businesses, NGOs and individual citizens. Currently the Partnership is formulating its Action Agenda, which will serve as the Comprehensive Conservation and Management Plan, expected to be completed by December of this year.

Here on Capitol Hill, I have taken the lead in our delegation's effort to increase the Federal role in restoring Puget Sound. As Chairman of the Interior and Environment Appropriations Subcommittee, I am pleased that we have been able to increase funding for these recovery efforts through the EPA's Geographic Program, which as you know also funds the Chesapeake Bay program, the Great Lakes cleanup effort and work on other major national waterways. This funding has helped jumpstart EPA's increased involvement in the Puget Sound recovery efforts and I am pleased that last August, 12 Federal agencies came together on the shore of Puget Sound to sign a Memorandum of Understanding to pledge their efforts toward the clean-up.

In order to reinforce our federal efforts on Puget Sound, I have introduced HR 6364, legislation entitled "The Puget Sound Recovery Act of 2008," which is co-sponsored by many of my colleagues from the Washington delegation, including my good friend and Subcommittee member Brian Baird. A companion bill has been introduced in the Senate as well. HR 6364 will establish an EPA Puget Sound office through which the agency will coordinate efforts among the many other federal agencies involved in the cleanup effort. The bill calls for a cross-cutting budget of these federal agency efforts, in order to provide a complete view, at the outset of our budget process each year, of the total federal contribution to the cleanup program. The bill also authorizes grants for studies on the causes of water quality problems in Puget Sound and strategies to counter these threats, as well as grants for sewer and storm water discharge projects. HR 6364 also requires a biennial report from EPA to Congress on the progress of the clean-up effort.

There are many compelling reasons, in my judgment, why this Puget Sound recovery effort deserves the increased federal response that would be authorized by my legislation. As I stated previously, this great inland sea-- Puget Sound -- is the nation's second largest estuary with 2,500 miles of shoreline as well as 14 major rivers. An

estimated four million people live in the watershed, and by 2025 there will be another 1.5 million Puget Sound area residents. Furthermore, the Federal government has a huge presence in the region with military bases, National Parks and huge tracts of land owned by the Forest Service and Fish and Wildlife Service. No effort could be successful without these Federal agencies doing their part to reduce harmful inputs into the Puget Sound watershed.

Another reason that the Federal government should play a larger role in the Puget Sound clean up is that it is part of an International waterway shared with Canada. I regret that our Canadian friends are not always as environmentally sensitive as our government has been, a problem exacerbated by the provincial level jurisdiction over Canadian water quality issues. The increased role of the United States federal government that will result from passage of my legislation will present a much stronger argument to Canada and to the province of British Columbia that they must step up and increase their recovery efforts.

Now I would like to introduce my good friends who will be testifying together on a panel later during this hearing. First of all, there is Bill Ruckelshaus who I think all of you know as the first administrator of the EPA. Governor Gregoire has named Bill to be

**the Chairman of the Puget Sound Partnership Leadership Council. Fortunately for us, Bill moved to Washington State and has taken a leadership role in many environmental issues. Bill is going to testify about how the Partnership is progressing toward its goal of cleaning up Puget Sound by 2020.**

**Another good friend who is testifying at this hearing is Kathy Fletcher, who in 1991 helped found People for Puget Sound, which is one of the leading environmental groups in Washington State. Kathy made her reputation as being a tireless champion when she chaired the Puget Sound Water Quality Authority back in the 1980s. Under her leadership, the first comprehensive management plan for the watershed was developed. And saving Puget Sound has been Kathy's avocation ever since.**

**Ron Kreizenbeck also will be testifying before this panel today. Ron has had a respected 30-year career with EPA and most recently served as the Deputy Regional Administrator for Region 10 and last year was awarded the Presidential Rank Award. Ron is on loan from the EPA to the Puget Sound Partnership and will offer a unique perspective on the continuing recovery efforts.**

**In closing, I want to thank the Water Resources and the Environment Subcommittee for holding this hearing today. While I am asking this Subcommittee and the full Transportation Committee for favorable consideration of my legislation, it is also my intention to offer this authorization bill as a vehicle to demonstrate how best to undertake such a complex, multi-jurisdictional clean-up effort. It should be a model, in my judgment, of scientific integrity, coordination between Federal, state, local and Tribal governments, and demonstrable achievement that is transparent and open to public scrutiny. I welcome any input that Members of this Committee may have that would better enable this legislation to achieve these goals.**

**Thank you for your consideration.**

.....  
(Original Signature of Member)

110TH CONGRESS  
2D SESSION

**H. R.** \_\_\_\_\_

To amend the Federal Water Pollution Control Act to provide assistance for programs and activities to protect the water quality of Puget Sound, and for other purposes.

\_\_\_\_\_  
**IN THE HOUSE OF REPRESENTATIVES**

Mr. DICKS introduced the following bill; which was referred to the Committee  
on \_\_\_\_\_  
\_\_\_\_\_

**A BILL**

To amend the Federal Water Pollution Control Act to provide assistance for programs and activities to protect the water quality of Puget Sound, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*  
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the "Puget Sound Recovery  
5 Act of 2008".

6 **SEC. 2. FINDINGS.**

7 The Congress finds the following:

1           (1) Puget Sound, as the Nation's second largest  
2       estuary, is a cornerstone of the Pacific Northwest's  
3       regional identity and at the heart of the region's  
4       prosperity, supporting a thriving natural resource  
5       and marine industry.

6           (2) The water quality of Puget Sound is in de-  
7       cline, with areas of deadly low oxygen and increasing  
8       toxic pollutants. Resident species such as salmon  
9       and orcas are endangered.

10          (3) The declining health of Puget Sound threat-  
11       ens the economic and environmental vitality of the  
12       Pacific Northwest.

13          (4) The Governor of the State of Washington  
14       has taken steps to combat the decline of Puget  
15       Sound at the State government level.

16          (5) The Federal Government should now match  
17       the efforts of the State of Washington. The Environ-  
18       mental Protection Agency should take the lead at  
19       the Federal level to create a comprehensive recovery  
20       package for Puget Sound, in coordination with the  
21       comprehensive conservation and management plan  
22       for Puget Sound, and should establish a Puget  
23       Sound office in the State of Washington. Other Fed-  
24       eral agencies to be involved should include the  
25       United States Fish and Wildlife Service, the Na-

1 tional Park Service, the United States Geological  
2 Survey, the Forest Service, the Natural Resources  
3 Conservation Service, the Corps of Engineers, and  
4 the Departments of Commerce, Homeland Security,  
5 Defense, and Transportation.

6 (6) The Puget Sound recovery plan efforts  
7 should be listed in the President's annual budget  
8 and should serve as a model of the use of science  
9 and efficient coordination between Federal, tribal,  
10 State, regional, and local efforts with an emphasis  
11 on monitoring, assessment, and reaching demon-  
12 strable goals.

13 (7) Canada should join in this enhanced effort,  
14 given that Puget Sound and the Georgia Straits are  
15 the same waterway.

16 **SEC. 3. PUGET SOUND.**

17 Title I of the Federal Water Pollution Control Act  
18 (33 U.S.C. 1251 et seq.) is amended by adding at the end  
19 the following:

20 **"SEC. 123. PUGET SOUND.**

21 **"(a) PROGRAM OFFICE.—**

22 **"(1) ESTABLISHMENT.—**The Administrator  
23 shall establish in the Environmental Protection  
24 Agency a Puget Sound Program Office (in this sec-  
25 tion referred to as the 'Office').



1           “(2) APPOINTMENT OF DIRECTOR.—The Office  
2       shall be headed by a Director who, by reason of  
3       management experience and technical expertise re-  
4       lating to Puget Sound, is highly qualified to direct  
5       the development of programs and plans on a variety  
6       of issues relating to Puget Sound. The Office shall  
7       be located in the State of Washington.

8           “(3) DELEGATION OF AUTHORITY; STAFFING.—  
9       The Administrator shall delegate to the Director  
10      such authority, and provide such additional staff, as  
11      may be necessary to carry out the duties of the Di-  
12      rector under this section.

13      “(b) DUTIES OF DIRECTOR.—

14           “(1) IN GENERAL.—The Director shall assist  
15      the management conference convened for Puget  
16      Sound under section 320 (in this section referred to  
17      as the ‘Conference’) in carrying out its goals.

18           “(2) SPECIFIC DUTIES.—In carrying out para-  
19      graph (1), the Director shall—

20           “(A) assist and support the implementa-  
21      tion of the comprehensive conservation and  
22      management plan developed by the Conference  
23      pursuant to section 320 (in this section referred  
24      to as the ‘Comprehensive Plan’), including ef-  
25      forts to establish, within the process for grant-

1           ing watershed general permits, a system for  
2           promoting innovative methodologies and tech-  
3           nologies that are cost-effective and consistent  
4           with the goals of the Comprehensive Plan;

5           “(B) to the extent practicable, coordinate  
6           the major functions of the Federal Government  
7           related to the implementation of the Com-  
8           prehensive Plan, including programs and activi-  
9           ties for water quality improvements, wetland  
10          and estuary restoration and protection, endan-  
11          gered species recovery, and research and studies  
12          commissioned under this Act;

13          “(C) conduct or commission studies and  
14          research considered necessary for strengthened  
15          implementation of the Comprehensive Plan, in-  
16          cluding studies and research described in para-  
17          graph (3);

18          “(D) coordinate and manage environ-  
19          mental data related to Puget Sound;

20          “(E) coordinate the grant, research, and  
21          planning programs authorized under this sec-  
22          tion;

23          “(F) coordinate activities for the protection  
24          of Puget Sound and the Georgia Straits with  
25          Canadian authorities;

1           “(G) coordinate activities and implementa-  
2           tion responsibilities, including activities under  
3           species recovery plans, through cooperation with  
4           other Federal agencies that have jurisdiction in  
5           the Puget Sound watershed;

6           “(H) collect and make available to the  
7           public publications, and other forms of informa-  
8           tion the Conference determines to be appro-  
9           priate, relating to the environmental quality of  
10          Puget Sound; and

11          “(I) biennially issue a report to Congress  
12          that—

13               “(i) summarizes the progress made in  
14               implementing the Comprehensive Plan;

15               “(ii) summarizes any modifications to  
16               the Comprehensive Plan in the 12-month  
17               period immediately preceding such report;  
18               and

19               “(iii) incorporates specific rec-  
20               ommendations concerning the implementa-  
21               tion of the Comprehensive Plan.

22          “(3) STUDIES AND RESEARCH.—Areas for stud-  
23          ies and research under paragraph (2)(C) shall in-  
24          clude—

1           “(A) population growth and the adequacy  
2           of wastewater treatment facilities and on-site  
3           septic systems;

4           “(B) the use of physical, chemical, and bi-  
5           ological methods for nutrient removal in sewage  
6           treatment plants;

7           “(C) contaminated sediments and dredging  
8           activities;

9           “(D) nonpoint source pollution abatement,  
10          including pollution from stormwater discharges,  
11          and land use activities in the Puget Sound wa-  
12          tershed;

13          “(E) wetland, riparian, and near shore  
14          protection and restoration;

15          “(F) flood abatement and floodplain res-  
16          toration techniques;

17          “(G) the impacts of forest and agricultural  
18          practices on the health of Puget Sound;

19          “(H) atmospheric deposition of pollutants  
20          into the Puget Sound watershed;

21          “(I) water quality requirements to sustain  
22          fish, shellfish, and wildlife populations, and the  
23          use of indicator species to assess environmental  
24          quality;

1           “(J) State water quality programs, for  
2           their adequacy pursuant to implementation of  
3           the Comprehensive Plan;

4           “(K) options for long-term financing of  
5           wastewater treatment projects and water pollu-  
6           tion control programs;

7           “(L) water usage and efficiency;

8           “(M) toxic pollutants; and

9           “(N) such other areas as the Director con-  
10          siders appropriate.

11          “(4) IMPLEMENTATION METHODS.—The Direc-  
12          tor may enter into interagency agreements, make  
13          intergovernmental personnel appointments, and uti-  
14          lize other available methods in carrying out the Di-  
15          rector’s duties under this subsection.

16          “(c) GRANTS TO IMPLEMENT COMPREHENSIVE  
17          PLAN.—

18          “(1) IN GENERAL.—The Administrator may  
19          make grants to eligible recipients for projects and  
20          studies that will help implement the Comprehensive  
21          Plan.

22          “(2) ELIGIBLE ACTIVITIES.—Projects and stud-  
23          ies eligible for assistance under this subsection in-  
24          clude planning, research, modeling, construction,  
25          monitoring, implementation, citizen involvement and

1 education, and such other activities as the Adminis-  
2 trator considers appropriate.

3 “(3) FEDERAL SHARE.—The Federal share of  
4 the cost of a project or study receiving grant assist-  
5 ance under this subsection shall not exceed 50 per-  
6 cent of the cost of the project or study.

7 “(4) ELIGIBLE RECIPIENT DEFINED.—In this  
8 subsection, the term ‘eligible recipient’ means a  
9 State, interstate, tribal, regional, or local water pol-  
10 lution control agency or other public or nonprofit  
11 private agency, institution, or organization.

12 “(d) GRANTS FOR PROJECTS TO ADDRESS SEWAGE  
13 AND STORMWATER DISCHARGES.—

14 “(1) IN GENERAL.—The Administrator may  
15 make grants to eligible recipients for projects to ad-  
16 dress sewage and stormwater discharges into the  
17 Puget Sound watershed.

18 “(2) ELIGIBLE PROJECTS.—Projects eligible for  
19 assistance under this subsection include demonstra-  
20 tion and research projects that provide treatment  
21 for, or that minimize, sewage or stormwater dis-  
22 charges using one or more approaches, including de-  
23 centralized or distributed stormwater controls, de-  
24 centralized wastewater treatment, low-impact devel-

1       opment practices, conservation easements, stream  
2       buffers, and wetlands restoration.

3       “(3) AWARD OF GRANTS.—

4       “(A) IN GENERAL.—Subject to subpara-  
5       graph (B), the Administrator shall award  
6       grants under this subsection on a competitive  
7       basis.

8       “(B) DISTRESSED COMMUNITIES.—In  
9       awarding grants under this subsection, the Ad-  
10      ministrator may give priority to a project lo-  
11      cated in a distressed community.

12      “(4) FEDERAL SHARE.—

13      “(A) IN GENERAL.—Subject to subpara-  
14      graph (B), the Federal share of the cost of a  
15      project receiving grant assistance under this  
16      subsection shall not exceed 75 percent of the  
17      cost of the project.

18      “(B) DISTRESSED COMMUNITIES.—The  
19      Federal share of the cost of a project receiving  
20      grant assistance under this subsection shall not  
21      exceed 100 percent of the cost of the project if  
22      the project is located in a distressed commu-  
23      nity.

24      “(5) DEFINITIONS.—In this subsection, the fol-  
25      lowing definitions apply:

## 11

1           “(A) ELIGIBLE RECIPIENT.—The term ‘eli-  
2           gible recipient’ means a State, interstate, tribal,  
3           regional, or local water pollution control agency  
4           or other public or nonprofit private agency, in-  
5           stitution, or organization.

6           “(B) DISTRESSED COMMUNITY.—The term  
7           ‘distressed community’ means a community  
8           that meets affordability criteria established by  
9           the State in which the community is located, if  
10          such criteria are developed after public review  
11          and comment.

12          “(e) ANNUAL BUDGET PLAN.—

13               “(1) IN GENERAL.—The President, as part of  
14               the annual budget of the United States Government,  
15               shall submit information regarding each Federal  
16               agency involved in Puget Sound protection and res-  
17               toration, including—

18                       “(A) an interagency crosscut budget that  
19                       displays for each Federal agency—

20                               “(i) amounts obligated in the pre-  
21                               ceding fiscal year for protection and res-  
22                               toration activities relating to Puget Sound;

23                               “(ii) the estimated budget for the cur-  
24                               rent fiscal year for protection and restora-  
25                               tion activities relating to Puget Sound; and



1                   “(iii) the proposed budget for protec-  
2                   tion and restoration activities relating to  
3                   Puget Sound; and

4                   “(B) a description of the Federal role in  
5                   the Puget Sound Program and the specific role  
6                   of each agency involved in Puget Sound protec-  
7                   tion and restoration, including specific activities  
8                   conducted or planned to achieve the goals of the  
9                   Comprehensive Plan.

10                  “(2) COORDINATION WITH THE CON-  
11                  FERENCE.—In carrying out this subsection, the  
12                  President, to the extent practical, shall coordinate  
13                  reporting, data collection, and planning activities  
14                  with the Conference.

15                  “(f) AUTHORIZATIONS.—There are authorized to be  
16                  appropriated to the Administrator to carry out this section  
17                  such sums as may be necessary for each of fiscal years  
18                  2009 through 2013.”.

A handwritten signature in black ink, reading "Harry E. Mitchell". The signature is fluid and cursive, with the first name "Harry" and last name "Mitchell" clearly legible.

Statement of Rep. Harry Mitchell  
House Transportation and Infrastructure Committee  
Subcommittee on Water Resources and Environment  
6/26/08

--Thank you Madam Chairwoman.

--And thank you for holding this series of hearings on protecting America's great waters.

--As you know, even those of us from states with no coasts have a stake in the health of our nation's estuaries.

--According to the National Oceanic and Atmospheric Administration and the National Research Council, estuaries provide habitat for 75 percent of the commercial fish caught in the United States and 80-90 percent the recreational fish that are caught.

--I look forward to hearing from today's witnesses about how we can most effectively protect these vital national resources.

--At this time I yield back.

**WRITTEN TESTIMONY OF  
JEFF BENOIT  
PRESIDENT AND CEO, RESTORE AMERICA'S ESTUARIES**

**LEGISLATIVE HEARING BEFORE THE  
HOUSE TRANSPORTATION AND INFRASTRUCTURE COMMITTEE,  
SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT**

**Protecting and Restoring America's Great Waters Part 1: Coasts and Estuaries  
June 26, 2008**

Good morning Chairwoman Johnson and Members of the Subcommittee. I am Jeff Benoit, President and CEO of Restore America's Estuaries. I am pleased to be here today to discuss Restore America's Estuaries' comments regarding coastal and estuarine protection and restoration and specifically the National Estuary Program (NEP). We believe that the NEP is one of the vital programs woven into the fabric of working partnerships needed to restore and maintain the water quality and ecological integrity of estuaries. Many of our accomplishments at Restore America's Estuaries are due to partnerships and community involvement, and we believe that the NEP embodies both of these essential elements.

The NEP is also a program that I personally feel is very important and that I have first-hand experience working with through my former position as Director of the Massachusetts Coastal Zone Management Program (MCZMP), which administers two NEPs, including the Buzzards Bay NEP and the Massachusetts Bays Program. The MCZMP embraced the NEP concept early on and helped establish the two Massachusetts Programs because of the unique opportunity to use these programs to supplement the regular CZM efforts with a focused site-based planning and management process.

We strongly urge the reauthorization of this program, and before I present our recommendations, I would like to provide you with a little background about Restore America's Estuaries and discuss several issues of interest to our organization.

**RESTORE AMERICA'S ESTUARIES**

Restore America's Estuaries has been working since 1995 to restore our nation's greatest estuaries. Our mission is to preserve the nation's network of estuaries by protecting and restoring the lands and waters essential to the richness and diversity of coastal life. Restore America's Estuaries is a national alliance of 11 community-based organizations that protect and restore coastal and estuarine habitat. Our 11 member organizations include: American Littoral Society, Chesapeake Bay Foundation, Coalition to Restore Coastal Louisiana, Connecticut Fund for the Environment—Save the Sound, Conservation Law Foundation, Galveston Bay Foundation, North Carolina Coastal Federation, People for Puget Sound, Save the Bay—San Francisco Bay, Save the Bay—Narragansett Bay, and Tampa Bay Watch. Collectively, we have over 250,000 members nationwide.

Testimony of Jeff Benoit  
President and CEO of Restore America's Estuaries  
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Restore America's Estuaries is results-oriented. We join with government agencies, corporations, civic organizations, scientists, and local volunteers to conduct restoration projects with real impacts. Since its creation, Restore America's Estuaries and its 11 member organizations have:

- Invested about \$30 million in local restoration projects;
- Restored more than 56,000 acres of estuarine habitat;
- Built more than 300 oyster reefs and planted over 2.6 million oysters;
- Mobilized more than 250,000 volunteers, including more than 80,000 young people in coastal restoration and education activities each year; and
- Convened the largest biennial national conference for the coastal restoration community.

At the national level, Restore America's Estuaries has been a leader in bringing all sectors of the restoration community together to advance the knowledge, science, policies, and best practices in coastal and estuarine habitat restoration. Restore America's Estuaries engaged in a 2-year initiative to create a multi-sector consensus document, *A National Strategy to Restore Coastal and Estuarine Habitat*, which outlines the objectives and methods for reaching the goal of restoring one million acres of our nation's coastal and estuarine habitats. In a previous effort, we worked closely with the Coastal and Estuarine Research Federation to build a consensus framework for habitat restoration through a collaborative process between scientists and field practitioners to define scientifically sound and technically feasible principles of estuarine habitat restoration. These principles are delineated in the publication, *Principles of Estuarine Habitat Restoration*.

#### IMPORTANCE OF ESTUARIES

Estuaries—where freshwater from a river mixes with saltwater from the ocean—are essential both ecologically and economically. Estuaries are among the most biologically productive, economically valuable, aesthetic, and densely populated places on earth.

Some of the invaluable ecological services they offer include: providing vital nursery habitat for two-thirds of the commercial shellfish and finfish populations and habitat for nesting and foraging coastal birds; stabilizing shorelines and buffering against erosion; and providing flood control. In addition, they provide opportunities for people to recreate and to appreciate and learn about the natural environment.

Restore America's Estuaries convened a panel of internationally renowned experts to help us understand the economic value of coastal and estuary resources. These authors were asked to research and summarize our knowledge of coastal economic value. We would like to submit the Executive Summary of this report, *The Economic and Market Value of Coasts and Estuaries: What's at Stake*, for the record.

Their findings were astonishing—far beyond commercial fishing and tourism, healthy coasts and estuaries are essential for protecting more than \$800 billion of trade each year, tens of billions of dollars in recreational opportunities annually, and more than 45 percent of the nation's petroleum refining capacity. Through this research, we found that with only 13 percent of the land area of the continental U.S., estuary regions of the nation comprise a disproportionate share of the

nation's economy, with 43 percent of the population, 40 percent of the employment, and 49 percent of output. It is clear that much of the U.S. gross domestic product (GDP) is generated in these narrow ribbons along our nation's coasts. In fact, the U.S. Commission on Ocean Policy found that over half of the nation's GDP (\$4.5 trillion in 2000) is generated in coastal counties and adjacent ocean waters.

#### **THREATS TO ESTUARIES**

Estuaries and their associated natural resources and important ecosystem services are in a perilous state due to an increasing level of stress. The coast is the fastest growing region in the country, with the coastal zone losing land to development at a pace faster than the rest of the country. This affects the quality of coastal watersheds and, as a result, the health of estuaries and coasts. These valuable coastal areas are threatened by coastal sprawl, which seriously degrades coastal water quality, reduces access to coastal waters, mars the aesthetic beauty, increases flood control costs, eliminates recreation opportunities, and alters estuaries.

In addition to physical impacts (e.g., wetland loss, shoreline armoring, and sea-level rise) to these ecosystems, nutrient and other chemical pollution (e.g., pharmaceuticals and personal care products), invasive species, and over-harvesting of resources are major causes of declines in the productivity and health of these systems.

Estuaries around the country have lost varying degrees of habitat and biological function. For example, between the 1950s and the 1990s, the Galveston Bay system experienced a net loss of nearly 35,000 acres of its wetlands due to a variety of human and natural causes. In addition, 70 percent of the eel grass beds and 50 percent of the salt marshes around Narragansett Bay in Rhode Island have been lost due to human activity, and the Raritan Bay area in lower New York Harbor has lost over 80 percent of its original wetlands. In New Jersey, only a mere 2 percent of the historic native oyster populations have survived after suffering from disease, over-harvesting, and habitat destruction. In the Chesapeake Bay over 16 million bushels of oysters were harvested in the early 1900s, but the harvest has collapsed to only 45,000 bushels in 2006. In Long Island Sound more than 40 percent of the original wetlands are gone. The story continues on the west coast as well. San Francisco Bay has lost 95 percent of its original marshland.

A growing threat to our nation's estuaries is climate change. The impacts of climate change will exacerbate the already increasing stresses on our sensitive coastal resources. Estuary wildlife and the habitat they depend on are threatened by changes in rainfall, temperature, sea level, soil conditions and air pollution. For example, altered rain and snowfall patterns throughout the U.S. will affect the volume and timing of fresh water flowing into our estuaries, consequently changing salinity and sediment conditions, which will impact sensitive habitats and species. While no one knows how precipitation patterns might be altered, changing fresh water flows would affect the distribution and abundance of some shellfish such oysters, as well as rare species, that depend on high salinity salt marsh habitats.

Sea level rise is of particular concern. As sea level rises, the frequency and duration of coastal flooding and inundation will increase, severely impacting sensitive coastal resources and adjacent properties. For example, in San Francisco Bay, sea level rose about seven inches over

the last century at the Golden Gate, and the Intergovernmental Panel on Climate Change and the 2006 California Climate Action Team project it could rise another two to three feet by 2100, which could cause coastal flooding of Bay wetlands and shoreline cities.

Healthy estuaries help counter climate change by capturing carbon from the atmosphere and providing natural flood protection. Scientists have found that tidal salt marshes are particularly effective in helping to counter climate change, and recommend tidal salt marsh restoration as an important strategy to capture and hold carbon from the air. According to scientists, every acre of restored, healthy salt marsh captures and converts at least 870 kilograms of carbon dioxide into plant material annually—equivalent to the greenhouse gas emissions from driving 2,280 miles. Restored tidal salt marshes also provide natural flood control and may reduce the need to build seawalls to protect developed shoreline areas against sea level rise.

I would like to now turn your attention to the NEP, first to highlight what we consider to be successes of the program, and then identify several areas for programmatic improvements.

#### **THE NATIONAL ESTUARY PROGRAM**

For over 20 years, the NEP has been a unique, voluntary, community-based program working to restore and maintain the water quality and ecological integrity of estuaries of national significance. The 28 NEPs across the country have tackled complex water quality issues, and to varying degrees, have achieved on-the-ground environmental results, secured and leveraged funds, improved public education about estuaries, and engaged communities and stakeholders.

#### **Successful Elements of the National Estuary Program**

Congress was far-sighted in establishing the NEP in 1987 through amendments to the Clean Water Act both because of the specific charge to NEPs to be **stakeholder driven** and to take a **watershed-based ecosystem approach** to assessing and addressing challenges in an estuary.

#### **Stakeholder Driven**

The NEPs play a unique role by convening a broad community of stakeholders as equal partners and employing a collaborative approach to identifying issues and solving problems that includes the public in the planning and decision-making process. NEPs engage citizens' participation by establishing key partnerships among: federal, state, and local agencies; nonprofit organizations; industry; academia; environmental and business groups; and community residents. This process of casting a broad net and involving many diverse interests and communities has been, and continues to be, essential to addressing complex coastal and estuarine issues. The NEPs engage stakeholders to develop a Comprehensive Conservation and Management Plan (CCMP) which becomes the management blueprint for the estuary with specific actions to improve water quality, habitat, and living resources.

A recent study published in the American Journal of Political Science found that the networks in communities with an NEP span more levels of government, integrate more experts into public policy discussions, and have stronger relationships among stakeholders than estuaries without an NEP (M. Schneider et al., 2003). Because NEPs actively engage stakeholders and have strong

networks in places, other management entities should take advantage of these networks in the future in reaching out to stakeholders for other efforts in those particular estuaries.

#### Watershed-based Planning

NEPs have a broad mandate to use the watershed as a geographic unit for planning and management purposes. They are also empowered to look across state lines, which is critical for estuaries that span multiple states. Because of this approach, NEPs play an important role in addressing coastal and estuarine challenges at a watershed or ecosystem-based level and consider the multiple and cumulative impacts on an estuary. The NEP focuses across the watershed, recognizing the connection between upstream pollution sources and downstream impacts. As the U.S. Commission on Ocean Policy found, taking this type of watershed or ecosystem-based management approach is critical to being able to address the many issues impacting coasts and estuaries. The Commission noted that “[t]he assessment and planning process used by the NEP holds promise for the future of ecosystem-based management.”

In addition, NEPs are also becoming increasingly more experienced in employing an “adaptive management approach” by targeting a broad range of issues in their CCMPs and determining the effectiveness of actions through monitoring and analysis of environmental data. Based on this type of feedback loop, they have the ability to modify their actions if they are not achieving the desired results.

#### Improving Capacity for Planning and Implementation

Support for the management and stewardship of our coastal ecosystems that bridge land and sea has never been more important due to the accelerating pace of environmental change now occurring. While environmental degradation of estuaries has continued in recent years, the NEP has been a key program aimed at developing a blueprint for protecting and restoring designated estuaries. Following the development and approval of the CCMP blueprints, NEPs transition to implementing the plans, as was provided by amendments through the *Estuaries and Clean Waters Act of 2000*. But even as NEPs work on implementing the CCMPs, the plans themselves need to be regularly revisited to stay current. These two issues, updating and implementing the CCMP, are addressed in the following section.

#### Adequate Funding to Update and Implement Plans

As population and development pressure along the nation’s coasts continues to rise, increased funding will be required to fully address the complex problems facing coasts and estuaries. It is crucial that Congress provide stable and adequate funding to implement the NEP to better address growing challenges to our nation’s estuaries and coasts. One of the fundamental issues preventing the NEP from being as effective of a program as it could be is that there is insufficient funding to fulfill their very broad mandate. This low level of federal funding for implementation of their CCMPs limits their effectiveness.

A challenge has been that without adequate funding, it is difficult for the NEPs to revise and update their CCMPs. In some estuaries, these plans are outdated and they have not continued to evolve or to serve as the blueprint or point of reference for government agencies or communities. In some cases, they have been overtaken by other state management planning efforts that are

currently more relevant for decision-makers. Reauthorization of the NEP and additional funding would enable the state and partners to dedicate staff time and energy toward revising and adapting these plans to meet today's estuarine management challenges. Without adequate funding, it is difficult for NEPs to take a comprehensive approach in addressing threats to the ecosystem.

Not only is implementation of the CCMPs critical, but it is also important that support is provided on-the-ground at the local level because that is where the implementation of the plans needs to happen. It is critical that sufficient funding is getting distributed at the local level to the NEPs. We encourage EPA and the NEPs to work collaboratively to make funding allocation decisions for the program.

**Recommendation: It is critical that NEPs have continued authority and strengthened capacity through reauthorization and additional funding to update and implement CCMPs.**

As we mentioned previously, NEPs are also becoming increasingly more successful in employing an "adaptive management approach" by targeting a broad range of issues in their CCMPs and determining the effectiveness of actions through monitoring and analysis of environmental data. Based on this type of feedback loop, they have the ability to modify their actions if they are not achieving the desired results.

**Recommendation: CWA provisions should be strengthened to formally embrace the concept of adaptive management.**

#### Remaining Agile and Targeting Specific Issues

While CCMPs are important for creating the overall blueprint for protecting and restoring designated estuaries, NEPs also need to be able to be flexible, current, and adaptive so that they can address new issues as they arise rather than waiting for the CCMP to be revised. In addition, because the CCMP is such a comprehensive planning tool, the NEPs also need to have a way to prioritize and target pressing issues. Strategically planning to identify priorities is also important so that the NEPs can adapt to the local situation, fill capability gaps, and be agile to address issues that federal, state, and local agencies cannot adequately address with their existing budgets and mandates.

One way to do this has been through the annual work plans that the NEPs have been developing as a basis of their annual EPA funding. These work plans serve to focus and prioritize the issues identified through the CCMP. The annual work plans are also generally reviewed and approved through a public stakeholder process, ensuring that the NEP is focusing each year on issues that are priorities for their communities.

This annual planning process has been helpful in allowing the NEPs to determine what efforts other management entities are undertaking and focusing their limited resources on areas that are not currently being addressed in a watershed. In North Carolina, for example, the Albemarle Pamlico NEP has helped to supplement other estuary management programs with its limited resources. Some years funding for this NEP has been used for multiple issues, however, some



years it has been focused on one major project (such as mapping of submerged aquatic vegetation) that was identified by management agencies as a major need that was not being covered by their operational program budgets. This type of planning process will continue to help the NEPs identify a clearer role so that they are supplementing other efforts in an estuary.

**Recommendation: CWA provisions should be strengthened to provide for a public process to generate annual strategic priorities that identify where to best target time and resources.**

#### Incorporating Habitat Restoration into Implementation

NEPs have been effective at demonstrating real environmental results through on-the-ground habitat restoration and protection, and we encourage them to continue focusing on that critical aspect. According to EPA, since 2000 alone, NEPs and their partners have restored and protected over 1 million acres of habitat; however, it's clear that there are great demands for additional habitat restoration and protection along our nation's coasts.

**Recommendation: CWA provisions should be strengthened to establish habitat restoration as a national priority to be incorporated into all CCMPs and annual work plans in order to develop strategic priorities for habitat restoration and conduct restoration projects.**

#### Using NEPs as a Model

Because of some of the successes of the NEPs, they have also begun sharing lessons learned with other local watershed groups. EPA and the NEPs have developed a handbook to share lessons learned from the NEPs called *Community-based Watershed Management: Lessons from the National Estuary Program*. The handbook is designed for individuals and organizations involved in watershed management. It describes innovative approaches to watershed management implemented by the NEPs and draws on over 20 years of experience to share information on how the NEPs organize and maintain effective citizen involvement efforts, collect and analyze data, assess and prioritize problems, develop and implement management plans, and communicate results of program activities. These types of efforts are valuable in informing other watershed management efforts and should be encouraged and strengthened.

**Recommendation: CWA provisions should be strengthened to provide for technology transfer to watershed groups to highlight what has worked for the NEPs.**

#### Effective Collaboration with other Estuary Protection and Restoration Programs

There has been significant collaboration of estuary programs at the local, state, and federal levels, including the NEPs and the Community-based Management Program, National Estuarine Research Reserve System, Coastal and Estuarine Land Conservation Program, and Coastal Zone Management Program within the National Oceanic and Atmospheric Administration (NOAA). There has also been significant collaboration with nongovernmental organizations, including many of Restore America's Estuaries' member groups. NEPs work closely with these programs in the area of restoration in particular. Some examples of collaboration among estuary programs are detailed below.

### Collaboration between EPA and the NEPs

As a federal-state partnership program, the NEP involves EPA as the federal partner and a state agency, university, or nonprofit organization as the state partner. For the program to be effective, there must be a collaborative relationship between EPA and the NEPs so that they can work together to set priorities for issues such as funding, future direction of the program, and expansion. One example of a very successful federal-state partnership is the National Estuarine Research Reserve System. NOAA provides system-wide vision and direction for the NERRS, including development of national partnerships, provisions for scientific data, technical support, and financial assistance. NERR sites are managed on a daily basis by a state agency or university. NOAA has worked very collaboratively with the managers of the NERR sites to set annual budgets for the program and determine future initiatives.

### Collaboration with Federal Estuary Programs

#### *Community-based Restoration Program*

NEPs, through the Association of National Estuary Programs, have collaborated with the Community-based Restoration Program (CRP). CRP is a model program for community collaboration, partnership building, and interagency coordination, and partners with grassroots organizations to encourage hands-on citizen participation in restoration projects. In addition to providing funds for projects, NOAA delivers technical support to help ensure restoration success. Through this partnership, CRP has supported habitat restoration projects at several NEPs. In a similar type of partnership, Restore America's Estuaries has been collaborating with CRP since 2000. This partnership has enabled our member groups to conduct over 500 restoration projects nationwide that have restored more than 3,000 acres, opened up 60 stream miles to fish passage, and involved over 250,000 volunteers.

#### *National Estuarine Research Reserve System*

In estuaries where there are both NEPs and National Estuarine Research Reserves (NERR), the sites have close working relationships and have partnered on various education, outreach, and scientific research projects. Narragansett Bay is fortunate to have both an NEP and NERR, and these two programs have collaborated on several issues. The directors of the two programs, for example, serve on each others management and advisory committees. They have also coordinated on the development of the Narragansett Bay NEP's status and trends report for the Bay watershed as well as various monitoring projects. The Narragansett Bay NERR recently conducted a pilot project to bring high-resolution surface water mapping to the Bay and worked with the Narragansett Bay NEP to coordinate with their research on low dissolved oxygen.

Another example of collaboration between the NERRs and the NEPs is in San Francisco Bay. The San Francisco Bay NERR partners with the San Francisco Estuary Project. The newly revised CCMP for the NEP has numerous actions naming the San Francisco Bay NERR as a partner in conducting scientific and management activities for the estuary. In addition, the NERR Manager serves as a member of the implementation committee for the NEP and the NERR research coordinator had contributed to the revision of the CCMP. Presently, the Executive Director of the NEP and the NERR Manager have been discussing more avenues for strengthening the partnership, including work on the "Climate Ready Estuaries Initiative".

#### *Coastal Zone Management Programs*

The two NEPs in Massachusetts, Buzzards Bay and Massachusetts Bays Program, are unique in that they are administered through the Massachusetts Coastal Zone Management Program. The Coastal Zone Management Program has a strong wetlands restoration program that the NEPs have worked closely with to prioritize places for habitat restoration. The NEPs have been effective in facilitating stakeholder involvement for habitat restoration projects and getting support from local elected officials and citizens.

#### Collaboration with Non-Governmental Organizations

##### *Galveston Bay Foundation*

In Texas, the Galveston Bay Foundation works closely with the Galveston Bay Estuary Program (GBEP) on nearly all of its restoration and education activities. GBEP facilitates bay-wide collaboration through its subcommittees comprised of stakeholders from across the bay. The GBEP Natural Resources Uses committee has been particularly successful. The East Bay Wetland and Water Quality Protection Project was engineered through the Natural Resources Uses subcommittee and recently received national attention through receipt of a Department of Interior Cooperative Conservation Award.

##### *North Carolina Coastal Federation*

In North Carolina, there has been a strong partnership between RAE member group, North Carolina Coastal Federation (NCCF) and the Albemarle Pamlico Sound NEP. NCCF's Executive Director serves on the policy committee of the NEP. NCCF has worked with the NEP from the beginning, including by helping with public education and outreach. In recent years, NCCF has partnered with the NEP to conduct environmental education on oyster habitat restoration projects and to develop an environmental academy for local officials.

##### *Save the Bay—Narragansett Bay*

Another example of collaboration between RAE member group, Save the Bay—Narragansett Bay and the Narragansett Bay NEP. A member of the staff of Save the Bay serves on the Narragansett Bay NEP's management committee. Both organizations have been part of the Rhode Island habitat restoration team, and one of the strongest areas of collaboration has been in the area of habitat restoration, particularly opening up barriers to fish passage. In addition, they have collaborated on monitoring and data collection programs such as dissolved oxygen and macroalgae surveys. Recently, the Narragansett Bay NEP has been involved with Save the Bay as a member of a coalition of environmental and economic groups working on freshwater supply management issues in Rhode Island.

##### *Connecticut Fund for the Environment—Save the Sound*

In Long Island Sound, RAE member group, Connecticut Fund for the Environment—Save the Sound has collaborated with the Long Island Sound Study, particularly in the area of habitat restoration. Both groups, along with state agencies and nongovernmental organizations, have jointly prioritized and reviewed habitat restoration projects. In addition both organizations have partnered on conducting several restoration projects. Connecticut Fund for the Environment—Save the Sound has participated in several of Long Island Sound Study's efforts, including their Citizens Advisory Committee, the Habitat Restoration Initiative, and the Stewardship Initiative.

#### Regional NEP Collaboration

In addition to strengthened coordination between federal estuary programs, it is also important to have improved collaboration at the regional level to allow decision makers to address pressing coastal and estuarine issues. Overall, decision-makers involved with the management of our nations coastal and ocean areas recognize the need to plan and collaborate on a regional level, and U.S. policy is beginning to move in that direction. Some NEPs are currently working closely with other NEPs in their regions, but where they are not, it is important that they strengthen their regional collaboration.

**Recommendation: CWA provisions should be strengthened to include a specific provision that encourages regional collaboration for NEPs to work with other NEPs in their regions to advance regional approaches to management. This collaboration should be fostered and supported by EPA.**

In conclusion, while there are a number of examples of collaboration among these programs, we encourage strengthened coordination and collaboration, particularly by incorporating local priorities such as those articulated in the NEP's CCMPs and annual work plans into local, state, regional, and federal decision-making and priority-setting.

#### **CONCLUSIONS**

It is clear that there are many assaults on our nation's estuaries and these threats are only getting more significant, particularly because of the impacts climate change will have. It is also clear that because of the way ecosystems function that it is critical to manage these ecosystems in their entirety. It is also evident that with the growing number of challenges that our coastal areas are facing that addressing those issues will require the involvement and input of a variety of stakeholders. Programs like the NEP will be crucial in convening stakeholders and communities to develop plans, set priorities, and make decisions to improve environmental conditions in estuaries. Adequate funding and targeted priorities will be needed to locally implement these plans for restoring and maintaining water quality and ecological integrity.

Thank you for the opportunity to address you today. I would be happy to answer any questions.

U.S. House of Representatives

Committee on Transportation and Infrastructure

Subcommittee on Water Resources and Environment

TESTIMONY OF MICHAEL CARLIN

ASSISTANT GENERAL MANAGER, WATER ENTERPRISE

SAN FRANCISCO PUBLIC UTILITIES COMMISSION

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Madam Chairwoman, Members of the Subcommittee, good afternoon.

My name is Michael Carlin, and I am Assistant General Manager for Water at the San Francisco Public Utilities Commission. Thank you for inviting me here to speak about a federal program which I believe deserves your continued support and reauthorization, the National Estuary Program founded under Section 320 of the Clean Water Act.

In my remarks, I will provide you with a short overview of the San Francisco Public Utilities Commission (Commission), and then describe the long-standing partnership and programs between the Commission and our local San Francisco Estuary Project. I will end with the reasons why I believe the National Estuary Programs successfully serve their local and regional communities and offer some suggestions for ways to strengthen the program.

The Commission is a Department of the City and County of San Francisco that provides water, wastewater, and municipal power services to San Francisco. Under contractual agreement with 28 wholesale water agencies, the SFPUC also supplies water to 1.6 million additional customers within three Bay Area counties. The Commission provides four distinct services: Regional Water, Local Water, Wastewater collection, treatment and disposal, and Power generation.

#### **How we have worked together**

The Commission has been an enthusiastic partner with the San Francisco Estuary Project since its formation over 20 years ago. We participated in the Management Committee that developed the original Comprehensive Conservation and Management Plan for protecting and restoring the estuary, and assisted with updating that plan last year. Together, we have worked on water resource and environmental issues in a number of Estuary Project forums and workgroups. These efforts have helped bring a more

cooperative and regional perspective to resource protection and management issues throughout the Bay Area.

The Commission has supported and been a part of many of Estuary Project's public information efforts, such as the highly regarded biennial State of the Estuary Conference and the bi-monthly Estuary newsletter. The State of the Estuary Conference brings together hundreds of leading decision-makers, scientists, and public interest groups and stakeholders to provide an assessment of the ecological health of the West coast's largest estuary, while the newsletter provides timely, valuable information about water supply, wetland, and wildlife-related concerns in San Francisco Bay and the Sacramento-San Joaquin River Delta.

An early action identified by the Estuary Project was recognizing the need for better regional monitoring. The Project's regional focus on this issue ultimately resulted in a multi-agency cooperative water quality Regional Monitoring Program for the San Francisco Estuary. This important effort is now implemented by the San Francisco Estuary Institute, the Bay area science partner of the Estuary project, as envisioned in the Project's management plan. The Commission consistently uses data generated by the Regional Monitoring Program's extensive monitoring network and special studies to guide decisions about where to allocate resources on pollutants of concern and how best to focus on regulatory permit requirements.

Many other significant regional programs and projects have been implemented over the past 20 years that address needs identified by the Estuary Project. For example, the Commission uses the Baylands Ecosystem Habitat Goals Report, developed by an interagency team under the auspices of the Estuary Project, as a guide for planning wetlands restoration projects in and around the estuary's baylands. The report has helped to guide decisions on projects as large as the South Bay Salt Pond Restoration Project, which encompasses over 15,000 acres of wetlands, and as small as a local recovery project on Commission property that covers just 41 acres.

The Estuary Project is also noted for its efficient and effective contracting and management skills and averages a 14 to 1 ratio of state and local match funds to Federal dollars expended. Recognizing the Project's competence in this area, the Commission supports a staffing partnership with the Project in which Estuary Project staff assist the Regional Water Quality Control Board with reviews of Commission projects thereby ensuring our proposals are even more responsive to the requirements and needs of the environment.

#### **Why the estuary programs work**

Over 20 years of experience proves that the estuary programs work. By providing critical regional perspective and local outreach, they help to promote effective management of our most significant estuaries. The San Francisco Estuary Project certainly has helped to change the way scientists and resource managers think about managing and restoring San Francisco Bay and the region. The Project's communication tools and strategies have helped integrate many disciplines, including hydrology, geology, biology, and chemistry. As a result, there is a more interdisciplinary, stakeholder-based, approach applied to management in the region, and watershed groups are now working on almost every tributary river and stream advocating for healthier watersheds. This level of communication and cross-pollination is invaluable to an entity like the Commission because it maximizes transparency both for us as we manage the resources under our stewardship, and for stakeholders with an interest in, or jurisdiction over, those resources.

#### **Recommendations for strengthening the NEPs**

NEPs are effective, community-based networks. They can serve as nursery sites for many other necessary cooperative efforts, such as the imperative work needed now to address climate change. As the place where the sea meets the land, the estuaries are ground zero for the effects of climate change on important fish and mammal species and critical water supplies, wastewater treatment, and stormwater collection. For the Commission and our colleague water and wastewater utilities, these concerns have



mobilized us to action, including the formation of a coalition of water utilities from around the nation, the Water Utility Climate Alliance.

The Alliance includes eight of the nation's largest water providers, which serve drinking water to over 36 million Americans. Our members including the San Francisco Public Utilities Commission, which chairs the WUCA,, Denver Water, Portland Water Bureau, Metropolitan Water District of Southern California, New York City Department of Environmental Protection, San Diego County Water Authority, Seattle Public Utilities, and Southern Nevada Water Authority.

The Alliance is dedicated to providing leadership and collaboration on climate change issues affecting drinking water utilities by improving research, developing adaptation strategies and creating mitigation approaches to reduce greenhouse gas emissions.

Using the venue of the Project's biennial State of the Estuary conference last year, I outlined for my fellow resource managers that a critical focus of the Alliance is to improve federally funded research efforts aimed at understanding the effects of climate change on our water systems. This is an objective we share with the Estuary Projects. Many anticipated climate change-related impacts remain poorly understood, including expected temperature increases, sea level rise, snowmelt runoff changes, streamflow alteration, and total precipitation. Each of these factors will likely have a tremendous effect on our operations – and on the ecosystems of the nation's estuarine environments. To the degree our water systems will be negatively impacted by climate change, so too will the nation's estuaries. We should partner in developing our predictive abilities related to these effects, and urge our partners in the federal and academic communities to enhance these efforts.

Water managers, regulatory agencies, the scientific community, stakeholder groups and others must learn to adapt to the new challenges we face as a result of climate change. The San Francisco Estuary Project, and I expect other Projects in the NEP nationwide, can and should have a central role in responding to this new challenge because these

programs have demonstrated the ability to bring numerous interested parties together to address complex resource issues – and because we need the same kind of interdisciplinary, transparent approach the NEP brings to the table.

#### **Concluding remarks**

I believe the National Estuary Programs successfully serve their local and regional communities, as demonstrated by the examples I have given about our local San Francisco Estuary Project. The Estuary Project has provided the Commission an invaluable forum with which to work in partnership with federal and state agencies, other local governments, environmental groups, business and industry, academia, and the public to preserve, restore, and enhance the San Francisco Estuary. As a result of its involvement with the Estuary Project's programs the Commission is able to make many important science-based decisions to help us manage our watersheds and natural resources in a way that assists with achieving an ecologically diverse and productive estuarine system.

Testimony

Subcommittee on Water Resources and Environment of the  
Committee on Transportation and Infrastructure  
United States House of Representatives  
June 26, 2008

Kathy Fletcher

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Madame Chairwoman and Members of the Committee,

Thank you very much for the opportunity to testify today on the importance of stepping up the federal government's efforts to protect and restore Puget Sound, a threatened but vital estuary located at the western end of the United States-Canada border. I am the executive director of People For Puget Sound, a broad-based citizen organization working to protect and restore the Sound's health. In the 1980s I chaired the Puget Sound Water Quality Authority, a state agency created to develop and oversee the implementation of a basin-wide management plan for the Sound.

People For Puget Sound, which I helped establish in 1991, advocates for the policies, funding and legislation needed to protect the Sound; we mobilize thousands of volunteers to restore and steward habitat restoration sites; and we educate the public about the Sound, its wonders, and how each of us can contribute to its health.

Puget Sound is truly a magnificent national treasure. Its biological diversity, abundant fisheries, deep-water ports and strategic location on the Pacific Rim have provided great economic, cultural and ecological value to the nation, to Native American tribes, to the state and to the millions of residents of the region.

Unfortunately, historical and current pollution, mismanagement of fish and wildlife, and unchecked development have damaged Puget Sound's health to the point where its iconic species—chinook salmon and orca whales—are on the brink of extinction, and the Sound's valuable shellfishery has retreated to the few remaining unpolluted parts of the Sound. Seventy-five percent of the Sound's original salt marshes have been destroyed. Nearly every urban bay, and some rural ones too, are Superfund toxic sites. Recreation, tourism, human health and the region's economy and quality of life are all at stake.

The state and federal government have not sat idly by while this tragedy unfolds, but clearly, much more needs to be done – soon – if Puget Sound is to survive as a productive estuary. Beginning in the 1980s, there have been serious efforts to address the Sound's decline. In 1986, the state adopted a management plan for the Sound, which became a model for the National Estuary Program, of which Puget Sound has been a part since that time. But a combined local, state and federal failure to adequately implement this plan has led to continued slippage in the Sound's condition.

In 2005, the governor launched a new, reinvigorated effort to save the Sound, focusing on action and implementation, with the goal of restoring Puget Sound to health by the year 2020. The new Puget Sound Partnership is the agency created by the 2007 legislature to achieve this goal, working with federal, tribal, local and non-governmental partners.

The Environmental Protection Agency (EPA) has been a player since the 1980s in the effort to save the Sound. But candidly, their attention to the Sound has ebbed and flowed as regional administrators have come and gone, and as national priorities have shifted around. In the 1980s EPA had an office focused on the Sound, which faded away. Now, thankfully, EPA is stepping up to the plate again, and has the potential to do much more.

Puget Sound is a long way from Washington, DC. It may not be obvious from here why the federal government should do more for our estuary by creating a Puget Sound program office in EPA. From our vantage point out there, the challenge is to overcome the obstacles to implementing a solid plan for the Sound, made even more daunting by expected effects on the Sound from both continued population growth and climate change. We need a long-term, sustainable, accountable, well-funded effort with clear deadlines and a laser focus on results rather than on planning and process. We need all the help we can get.

But why is this a priority for national attention? Puget Sound needs and merits additional national focus and involvement for at least three reasons:

1. The Puget Sound is part of an international marine ecosystem. Working in from the Pacific Ocean, the international border runs right down the middle of the Strait of Juan de Fuca, threads through the San Juan and Gulf Islands, and hits the mainland just south of the Fraser River, by far the largest river flowing into the international Sound and Straits area. Neither the water nor the wildlife pay any attention to this boundary. Untreated sewage from Victoria, British Columbia spews out into the

Strait of Juan de Fuca. "Our" orca whales cross the border multiple times almost every day this time of year, eating salmon of both nationalities. Oil spills hit both sides, regardless of where they start. EPA has played an important role in maintaining open lines of communication across the border, where Canadian federal agencies are key players. Over time, it is going to become increasingly important for the US and Canada to address Puget Sound issues together. I don't see this happening in an effective, sustainable way without more emphasis on the US side from the federal level.

2. The federal government is a major player in Puget Sound, through its military installations, National Parks and Wildlife Refuges, and National Forests. There literally can be no comprehensive approach to the protection and restoration of the Sound without the full cooperation and participation of the federal government. It goes without saying that federal agencies' policies and programs are crucial to the Sound, from the Corps of Engineers' permitting responsibility to the US Geological Survey's scientific studies, but the extraordinary amount of direct ownership and activity makes it essential for EPA's Puget Sound role to be sustained at a high level. EPA has taken the initiative to coordinate federal agencies in their relationship to the Puget Sound Partnership, but there is a need to do much more.
3. Puget Sound's federally-listed endangered species are at the heart of the matter. Southern Resident orca whales, Puget Sound chinook salmon, Puget Sound steelhead, bull trout, and Hood Canal chum salmon are all federally-listed species. Their fate is the fate of Puget Sound itself. In listing these species, the federal government has taken on a special responsibility for their recovery. For all of these species, the recovery plan is essentially to save the Sound. There is no one management action—like saving a specific piece of land—that will do the job. So elevating EPA's role and responsibility is one way of addressing the federal role and interest in endangered species. I might add that there are many other species in severely depleted condition in the Sound. Heightening the federal role in saving the Sound could prevent the need for some of these species to be listed in the future.

I am acutely aware that recovering major ecosystems to health is not easy, even when they are blessed with high-level attention and plentiful resources. But I do know that we don't have a chance if we don't give it our best shot. Part of that best effort is to equip and direct the EPA to increase its level of leadership and responsibility, and to sustain its involvement over the long haul.

Thank you very much. I would be pleased to answer questions or provide additional information.

TESTIMONY OF  
CRAIG HOOKS, DIRECTOR  
OFFICE OF WETLANDS, OCEANS, AND WATERSHEDS  
OFFICE OF WATER  
U.S. ENVIRONMENTAL PROTECTION AGENCY  
BEFORE THE  
SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT  
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE  
U.S. HOUSE OF REPRESENTATIVES

June 26, 2008

**1. Introduction**

Good afternoon Madam Chairwoman and members of the Subcommittee, I am Craig Hooks, Director of the Office of Wetlands, Oceans, and Watersheds in the Office of Water at the United States Environmental Protection Agency (EPA). Thank you for the opportunity to discuss EPA's National Estuary Program (NEP), one of the federal government's flagship ecosystem protection and restoration programs.

In today's testimony, I will describe some of the achievements of the National Estuary Program, the main reasons for these successes, and some of the most serious challenges to the health and productivity of our nation's estuaries, such as habitat loss, hypoxia and climate change.

We've long known that estuaries are among the most ecologically valuable and productive habitats on earth, creating more organic matter each year than comparably-sized areas of forest, grassland, or agricultural land. The productivity and variety of estuarine habitats, which include shallow open waters, mangrove forests, rocky shores, and oyster reefs, foster a wonderful abundance and diversity of wildlife like shore birds, fish, crabs and lobsters, marine mammals, shellfish, and sea birds. Estuaries function as the feeding, spawning, and nursery grounds for many marine and terrestrial finfish,

shellfish, birds, and plants, supporting unique communities of plants and animals that are specially adapted for life at the margin of the sea.

A recently-issued report, *The Economic and Market Value of Coasts and Estuaries: What's at Stake?*<sup>1</sup>, shows that coasts and estuary regions support a disproportionately large share of the nation's economic output and population. For example, estuary regions, which make up only 13 percent of the land area of the continental U.S., have 43 percent of the U.S. population and 40 percent of U.S. employment, and produce 49 percent of the nation's output. In addition, an economic profile of each NEP study area, prepared by EPA's National Center for Environmental Economics, found that all NEP study areas encompass coastal areas supporting over \$4 trillion in economic activity and 39 million jobs.<sup>2</sup>

The National Estuary Program is a key component of EPA's watershed approach to environmental protection. The NEP is also an important partner with other EPA and Federal, State and local programs in restoring, improving and protecting wetlands in the U.S.

## **II. Overview of the National Estuary Program**

The National Estuary Program was established by section 320 of the Clean Water Act Amendments of 1987, with a mission to protect and restore nationally-significant estuaries. This mission includes protecting and restoring water quality and habitat; native shellfish, fish, and wildlife populations; and waters and living resources that support human uses.

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<sup>1</sup> 2008 *The Economic and Market Value of Coasts and Estuaries: What's at Stake?* (ed. by Linwood H. Pendleton). Arlington, VA: Restore America's Estuaries.

<sup>2</sup> 2003, Jared Creason, Jamal Kadri, Gregg Serenbetz, Travis Warziniack, "Economic Profiles for EPA's National Estuary Program" U.S. EPA, National Center for Environmental Economics.



The NEP currently includes 28 programs, located along the Atlantic, Gulf of Mexico, and Pacific coasts. NEP study areas cover 43 percent of the coastal and estuarine drainage areas of the continental U.S. They range from very large, such as the 23,000 square miles of the Albemarle-Pamlico NEP study area, to fairly small, for example the 90 square mile study area of the San Juan NEP. NEP estuaries include a variety of ecosystems, from shallow embayments, like Buzzards Bay in Massachusetts, to the deep coastal waters of Puget Sound. They are urban and densely populated, like the San Francisco Estuary watershed, and they are rural watersheds with small populations, like Oregon's Tillamook Estuary. Despite the uniqueness of their places, the NEPs have many things in common, and owe much of their success to four principles:

- a focus on the watershed or ecosystem,
- collaborative problem-solving,
- integration of good science with sound decision making, and
- public participation.

EPA supports these 28 programs by providing guidance, technical and financial assistance, and periodic program evaluations. In addition to the 28 existing NEPs, 38 other sites have been formally nominated or have expressed interest in becoming an NEP.

### **III. Achievements**

#### *Habitat Protection and Restoration*

One of the priority problems common to all 28 NEP watersheds is habitat loss and degradation. Every NEP management plan includes numerous actions intended to protect and restore habitat acres and quality. NEP habitat protection and restoration efforts

include, for example, open space acquisition, conservation easements, and habitat creation or restoration.

Since 2000, the NEPs and their partners have protected and restored over 1.1 million acres of habitat. For example, development throughout the Coastal Bend area near Corpus Christi, Texas, has resulted in the loss, degradation, and fragmentation of crucial habitat and a decline in the abundance and diversity of living resources. The Coastal Bend Bays and Estuaries Program (CBBEP) helps ensure that these crucial habitats will remain intact by promoting land acquisition in the Delta. CBBEP first implemented this habitat acquisition initiative in 2002, and to date has acquired approximately 5,400 acres. CBBEP continues negotiations with landowners, and is nearing completion of preliminary activities needed to negotiate for the acquisition of another 5,100 Delta acres.

#### *Supporting Clean Water Act Core Programs*

Program evaluations of the NEPs conducted by EPA during 2004-2006 demonstrated the NEPs' substantial role in supporting NPDES/stormwater permitting, Total Maximum Daily Loads (TMDLs), section 319 nonpoint source control grants, water quality monitoring, and water quality standards. For example, the Long Island Sound NEP developed numeric water quality models to support a nitrogen TMDL and assessment of management alternatives. That program also promoted effluent trading and development of bubble permits that provide dischargers with flexibility to identify the most cost-effective actions for achieving nitrogen reduction requirements.

The NEPs are also important platforms for low-impact development projects. In 2007, the Tampa Bay Estuary Program and the Urban Land Institute-Tampa Bay

coordinated a meeting of over 300 leaders from the seven-county region to increase awareness of relationships among regional land use, transportation systems, and natural resources. Following this kick-off event, more than 15 community workshops were held, involving an additional 650 interested individuals and organization representatives. The value of the One Bay process will be enhanced by a concurrent study being led by EPA's Office of Research and Development Gulf Breeze Laboratory that will evaluate, through models and other tools, how the ecosystem services provided by the estuary would change under different development scenarios, such as dense, mixed-use development with low-impact development techniques versus greater sprawl and more impervious surfaces.

*Successful Leveraging—An NEP Hallmark*

The NEP programs are partnerships with a broad diversity of stakeholders who all have interests in protecting and restoring nationally significant estuaries. Therefore, the costs of implementing the NEP management plans should be and are shared among the members of each individual program partnership. A major challenge that came to light through our evaluation cycles was the NEPs' uncertainty about their partners' ability to provide long-term funding for management plan implementation. In response to that challenge, EPA sponsored a series of NEP finance workshops to build NEPs' capacity to develop sustainable financing strategies and partnerships.

EPA promoted "leveraging" as the most appropriate long-term financing mechanism for assisting NEPs. In this context, "leveraging" means creating collaborative relationships or formal agreements among interested stakeholders, enabling the partnership to achieve goals that would otherwise be beyond its reach. Through

leveraging, the 28 NEPs reap the benefits of a wide range of partners' experiences, resources, and energy, using them to manage such priority problems as polluted run off, aquatic invasive species, and sea level rise. During the years 2003-2007, the 28 NEPs received a total of \$85.3 million in CWA section 320 appropriations. During those same years, the NEPs used these federal dollars to leverage \$1.32 billion, or approximately \$15.50 for every \$1 in CWA section 320 funds, received. Over 95% of these leveraged resources were invested in on-the-ground activities like habitat restoration and storm water management; hence, less than 5% funded NEP overhead or operations.

#### *The NEP Coastal Condition Report*

The NEP Coastal Condition Report (CCR) is an EPA report assessing four key indicators of estuarine health: water quality, sediment quality, benthic community condition, and fish tissue contaminants. The estuarine monitoring data used in the NEP CCR were collected as part of EPA's National Coastal Assessment. Individual NEPs also collect other monitoring data over a longer time period and at more sampling stations to further enhance their understanding of conditions in their estuaries.

Using these four key indicators, EPA assigned a rating of "good", "fair", or "poor" to each NEP. These ratings were then averaged to create regional and national NEP results. The overall national condition of the NEPs was rated as "fair."

#### **IV. Key Challenges Facing NEPs**

Key challenges facing the NEPs include habitat loss and degradation leading to decline of fish and wildlife populations, toxic chemical pollution, invasive species, alteration of natural flow regimes, nutrient overloading leading to hypoxia and

eutrophication, pathogen contamination, freshwater inflow, climate change and sea-level rise, and emerging contaminants such as pharmaceuticals, and personal care products. Some of these are unique to our estuaries; others are challenges facing our water program overall.

## **V. Related EPA Programs**

### *Large Aquatic Ecosystems*

In 2007, the National Academy of Public Administration published a report recommending "making large scale ecosystem restoration a national priority." EPA's Strategic Plan: 2006 – 2011, provides for a significantly expanded effort to protect large aquatic ecosystems as a complement to the implementation of core, national water quality programs. These large ecosystem programs are addressing some of the Nation's most complex water resource management challenges, such as nutrient overloading.

EPA's current set of large aquatic ecosystem (LAE) programs includes the Chesapeake Bay Program Office, Great Lakes Program Office, Gulf of Mexico Program Office, Long Island Sound Program Office, South Florida Program Office, Lake Champlain program, Puget Sound program, Columbia River program, San Francisco Bay program, and the Pacific Islands program. While EPA is the federal lead in the LAEs, other federal and non-federal partners collaborate with LAE program management and staff to develop long-term plans and implement near-term activities based on those plans.

The EPA Office of Water recently established a national Council of Large Aquatic Ecosystems to support and promote efforts to protect these large aquatic ecosystems. The Council includes the managers of the large aquatic ecosystems as well as national program managers, and representatives of the EPA Office of Research and

Development and EPA Regional offices. Key goals of the Council are to encourage the exchange of “best practices,” improve coordination among large aquatic ecosystem program and core national water programs, strengthen links between ecosystem programs and the EPA Strategic Plan and budget, and focus EPA research on the top priority needs of the ecosystem programs.

*Climate Change Strategy and Climate Ready Estuaries*

The National Water Program recently published a national *Strategy* outlining actions needed to maintain the effectiveness of clean water and drinking water programs in the context of a changing climate. The public comment period on the draft *Strategy* closed on June 10 and we intend to finalize the *Strategy* this summer.

A key conclusion of the draft *Strategy* is that coastal areas are likely to be at greater risk from the consequences of climate change than are inland areas. Potential climate change impacts such as sea level rise, more intense storms, increasing temperatures, and changes in ocean chemistry may all come together to make adapting to climate change a significant challenge for coastal areas. These potential impacts will be compounded by existing stressors on coastal zones (e.g., land use change and development, population growth), and will require coastal managers to develop adaptation measures that improve ecosystem resilience.

The draft *Strategy* identifies a number of actions related to coastal areas including greater efforts for protection of coral reefs and expanded emergency planning. In addition, to assist the NEPs in building capacity for local leadership and expertise in adapting to the effects of climate change, EPA recently launched the Climate Ready

Estuaries program. This new effort works with the NEPs and other coastal managers to assess climate change vulnerabilities, engage and educate stakeholders, develop and implement adaptation strategies, and share lessons learned with other coastal managers.

This year EPA is providing assistance and technical support to six NEPs for the development of climate change adaptation plans for their coastal areas. The six pilot Climate Ready Estuary programs are the New Hampshire Estuaries Project, the Massachusetts Bays Program, the Partnership for the Delaware Estuary, the Albemarle-Pamlico National Estuary Program, the Charlotte Harbor National Estuary Program, and the San Francisco Estuary Project. EPA is also developing a Climate Ready Estuaries toolkit that will be made available to all coastal managers.

## **VI. Interagency Collaboration**

### *Ocean Action Plan*

Interagency and regional collaborations play an important role in protecting the health of our nation's ocean and coastal waters. In December 2004, the Administration released a comprehensive Ocean Action Plan (OAP) including 88 actions and a set of principles to strengthen and improve U.S. ocean policy. The OAP aligns with a number of EPA priorities, including preventing marine debris, improving water quality monitoring, and supporting state-led regional collaborations for protecting the health of our Nation's ocean and coastal waters.

One of the fundamental principles of the President's Ocean Action Plan is to enhance collaboration and partnership among Federal, State, Tribal, and local governments and the public on restoring and protecting our natural resources. For

example, on March 2, 2007, EPA Administrator Stephen Johnson, Interior Secretary Dirk Kempthorne and Commerce Secretary Carlos Gutierrez expressed support for the goals of the Puget Sound Partnership and committed to help achieve its goals.

#### *Coastal America*

The Coastal America Partnership brings together the responsibilities, talents, and resources of 13 federal agencies, state and local governments, and the private sector to protect, preserve, and restore the nation's coastal ecosystems through collaborative action and partnership. EPA plays an integral role in the Partnership's on-the-ground coastal restoration and protection activities, through our collaborations with the Partnership's Coastal Ecosystem Learning Center network and the Corporate Wetlands Restoration Partnership (CWRP). Through the CWRP alone, over 20,000 acres of wetlands and 7,000 stream miles have been protected.

#### *Collaboration between EPA and NOAA on Estuary Protection*

EPA and NOAA collaborate on estuary protection under the auspices of the Ocean Action Plan and in many other ways, such as joint work on Gulf Hypoxia, non-point source pollution, low impact development, and EPA's periodic National Coastal Condition reports.

In addition, NOAA and EPA work together at the local level with respect to particular NEPs. For example, the Barnegat Bay NEP and NOAA's Jacques Cousteau National Estuarine Research Reserve effectively collaborated on several Estuary!Live broadcasts that reached over a million international viewers in each of two years. The



broadcasts' goal was to provide students worldwide with access to an estuarine ecosystem and to experts who described and explained components of the ecosystem and responded real-time to questions sent in by students viewing the broadcast.

EPA, NOAA and the Charlotte Harbor National Estuary Program convened a two-day Smart Growth training session in 2007. This Coastal Community Planning and Development Workshop helped the Charlotte Harbor NEP and its partners identify opportunities to conserve and restore high priority natural areas, focus development in areas with existing infrastructure, explore options for transit oriented development, and identify other potential partners for planning, development, and conservation efforts. This workshop is part of a collaborative partnership targeted to coastal watershed managers.

## **VII. Recommendations**

The success of the National Estuary Program rests in part on the collaborative nature of the program and its emphasis on the watershed approach to protect and restore coastal and estuarine resources. To enhance the program further and share the lessons learned these past 20 years, I would offer that the NEPs should partner with, and provide assistance to, adjacent non-NEP coastal watersheds; e.g., they could establish regional compacts promoting information exchange and tech transfer.

## **VIII. Conclusion**

In conclusion, the NEPs are a critical part of EPA's Clean Water Act strategy. They are effective, efficient, and collaborative. And they have demonstrated the value of partnering to achieve environmental results.

**WRITTEN STATEMENT OF  
DAVID KENNEDY  
DIRECTOR, OFFICE OF OCEAN AND COASTAL RESOURCE MANAGEMENT  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
U.S. DEPARTMENT OF COMMERCE**

**HEARING ON  
PROTECTING AND RESTORING AMERICA'S GREAT WATERS:  
ESTUARIES AND COASTS**

**BEFORE THE  
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE  
SUBCOMMITTEE ON WATER RESOURCES AND THE ENVIRONMENT  
U.S. HOUSE OF REPRESENTATIVES**

**June 26, 2008**

**INTRODUCTION**

Good afternoon, Madam Chair and Members of the Subcommittee. I am David Kennedy, Director of the Office of Ocean and Coastal Resource Management within the National Oceanic and Atmospheric Administration (NOAA). Thank you for the opportunity to testify on protecting and restoring our nation's estuaries and coasts. My testimony will focus on the health of estuaries in the United States, NOAA's role in protecting and restoring estuaries, and NOAA's coordination with the Environmental Protection Agency's (EPA) National Estuary Program (NEP).

NOAA's mission is to understand and predict changes in the Earth's environment, and conserve and manage coastal and marine resources to meet our nation's economic, social, and environmental needs.

The coastal environment is one of our nation's most valuable assets. It provides food and livelihoods for people and essential habitat for thousands of species of marine animals and plants. A healthy coast is vital to the United States economy. Marine commerce and transportation, commercial and recreational fishing, tourism, and recreation all depend on a vibrant coastal environment. People are drawn to the coast for its raw and wild beauty, recreational opportunities, and economic productivity. Our coastal areas contain the nation's most diverse, valuable, and at-risk habitats. As more of the U.S. population becomes concentrated along the coastline, our coastal ecosystems are becoming stressed. Habitat loss, erosion, pollution, harmful algal blooms, and dead zones are all on the rise. The challenge to the nation and to NOAA is to balance our use of coastal and ocean resources today with the need to protect, preserve, and restore these priceless realms for future generations.

The coasts are home to the nation's estuaries – unique environments that are one of the most productive on earth. They serve as critical infrastructure for the larger marine food web, and can

help protect coastal communities from the effects of coastal hazards and climate change. For example, estuaries provide flood control and water quality protection benefits that can help protect communities from coastal inundation and the future effects of sea level rise.

Coastal and estuarine habitats face many pressures, including coastal development, climate change, and overall habitat degradation. Estuary regions make up only 13 percent of the land area of the United States, but are home to 43 percent of the population, support 40 percent of total U.S. employment, and produce a staggering 49 percent of the nation's Gross Domestic Product<sup>1</sup>.

The economy and the coastal environment are closely intertwined. Beaches, coastal communities, ports, and bays are economic engines that drive and support many sectors of the economy, including fishing, shipping, and recreation and tourism. An example of the economic importance of coastal waters is estuarine-dependent fisheries. Many commercial fish and shellfish species such as salmon, herring, and oysters depend on estuaries at some point during their life. According to NOAA's National Marine Fisheries data up to 75 percent of commercial catch<sup>2</sup> and 80 percent of recreational catch rely on estuarine habitat at some point in their life-cycle<sup>3</sup>. Further, estuarine-dependent fisheries are among the most valuable across the nation, estimated to be worth \$3.8 billion dollars, as cited in the recent RAE report that used NOAA's National Marine Fisheries Service landing statistics.

These productive regions, however, have experienced a decline in health. The National Estuarine Eutrophication Assessment is a joint report released by NOAA, EPA, and the Department of Agriculture. The most recent national assessment from 2007 found that the majority of estuaries assessed showed signs of eutrophication or nutrient enrichment. Most of these effects were found to be highly influenced by human-related activities attributed to the influence of coastal human populations. In particular these estuaries commonly demonstrated:

- Increased macroalgae and nuisance/toxic blooms, decreased oxygen, and submerged aquatic vegetation loss.
- High concentrations of chlorophyll *a* – an indicator of the abundance of phytoplankton in water.

NOAA scientists and their partners at the University of Maryland Center for Environmental Science found that, overall, eutrophic conditions were not significantly different – neither worse nor improved – between the early 1990s and early 2000s. However, the report predicts a

1 According to a recent NOAA-supported report produced by Restore America's Estuaries (RAE) on "The Economic and Market Value of Coasts and Estuaries". The complete RAE report can be found at: <http://www.estuaries.org/?id=208>

2 National Marine Fisheries Service (NMFS) report: *Our Living Oceans. Report on the Status of the U.S. Living Marine Resources*, 1999. NOAA Tech. Memo. NMFS-F/SPO-41. June 1999, page 47.

3 NOAA National Marine Fisheries Service (NMFS) report that is in publication prep. The document will be titled: *Estuarine Fish and Shellfish Species in U.S. Commercial and Recreational Fisheries: Economic Value as an Incentive to Protect and Restore Estuarine Habitat*. NOAA Technical Memorandum NMFS-F/SPO-84.

worsening of conditions by 2020 in 65 percent of estuaries and improvements in 20 percent of estuaries. The complete report can be found at: <http://ccma.nos.noaa.gov/publications/eutrouupdate/>.

In 2007, the National Science and Technology Council's Joint Subcommittee on Ocean Science and Technology released a report entitled *Charting the Course for Ocean Science in the United States in the Next Decade: An Ocean Research Priorities Plan and Implementation Strategy*. This report identified coastal ecosystem quality as a key area for research, and included a near term priority entitled "Coastal Response to Persistent Forcing and Extreme Events." Several interagency actions are underway to address the coastal ecosystem quality issues raised in the report. One example is a pilot project of the National Water Quality Monitoring Network. This network is a collaborative effort led by EPA's Office of Water, and including NOAA and the U.S. Geological Service, which will provide observations of pollution loads conveyed from inland watersheds to coastal waters.

NOAA delivers a dynamic range of nation-wide coastal and Great Lakes scientific, technical, and resource management services in support of safe, healthy and productive oceans and coasts. NOAA is the lead federal agency responsible for the stewardship of the nation's living marine resources and their habitat, including our estuaries and coasts. NOAA works within multiple mandates, including the Magnuson-Stevens Act, Estuary Restoration Act, Coastal Zone Management Act, Oil Pollution Act, Marine Mammal Protection Act, and the Endangered Species Act. NOAA's leadership and expertise on climate change issues, coastal restoration, habitat protection, natural resource damage assessment, hydrodynamic modeling, and invasive species management is leveraged by our federal, state, local, regional, tribal, private, and international partners to make our nation's estuaries and coasts healthy and productive.

NOAA has many programs that work to protect, observe, and restore coastal and estuarine habitats. This testimony will focus on the National Estuarine Research Reserve System, the Coastal Zone Management Program, the Coastal and Estuarine Land Conservation Program, and the Community-based Restoration Program. It will also highlight other relevant NOAA programs.

## **OVERVIEW OF NOAA'S COASTAL AND ESTUARY-RELATED PROGRAMS**

### **National Estuarine Research Reserve System (NERRS)**

Recognizing the value and importance of estuaries and the dangers facing them, Congress created the National Estuarine Research Reserve System (NERRS) as a part of the *Coastal Zone Management Act of 1972*. The NERRS is a network of areas that are protected for long-term research, water quality monitoring, education, and stewardship. There are currently 27 sites in the network. This partnership program between NOAA and the coastal states protects more than 1.3 million acres of estuarine land and water, which provides essential habitat for wildlife; offers educational opportunities for students, teachers and the public; and serves as living laboratories for scientists.

The NERRS program works to identify, monitor and address man-made effects to estuarine resources via a variety of programs and partners. The strength of the system lies in these partnerships and integrated, multi-disciplinary efforts to reach decision-makers. While each reserve is managed on a daily basis by a lead state agency, non-profit organization or university they do so with input from local partners and NOAA.

The NERRS program has been highly successful, and some of the accomplishments include:

- The NERR System-wide Monitoring Program collects abiotic and biotic monitoring data from 108 water quality stations, 27 weather stations, 27 nutrient stations, as well as monitoring data on submerged aquatic vegetation and emergent marsh. Reserves are sentinel sites for monitoring ecosystem change, including impacts from climate change.
- The NERRS Coastal Training Program reaches approximately 9,000 coastal decision-makers annually providing science-based information to enhance their capacity to make informed decisions and provide a forum for networking. Of those trained, 94 percent of coastal decision-makers plan to apply the science-based information received during training.
- The NERRS program provides over 800 advisory and outreach opportunities annually to transfer technical information about reserve science to estuarine stakeholders.
- The NERRS Estuary-Live program, operated in partnership with the NEP, draws over 1 million viewers. This program is a live web-cast from the field where teachers and students can learn about estuaries and make inquiries.
- The robust NERRS education programs reach approximately 80,000 students annually.

#### **Coastal Zone Management Program**

The national Coastal Zone Management (CZM) Program is a voluntary partnership between the NOAA and U.S. coastal states and territories and is authorized by the *Coastal Zone Management Act of 1972*. The CZM Program is led by NOAA through the Office of Ocean and Coastal Resource Management, a division of NOAA's National Ocean Service. State Coastal Zone Management Plans are a key asset for protecting and restoring estuaries. The goals of the national CZM Program are to:

- Preserve, protect, develop, and, where possible, restore and enhance the resources of the nation's coastal zone for this and succeeding generations;
- Encourage and assist the states to exercise effectively their responsibilities in the coastal zone to achieve wise use of land and water resources;

- Encourage the preparation of special area management plans to provide increased specificity in protecting significant natural resources, reasonable coastal-dependent economic growth, improved protection of life and property in hazardous areas and improved predictability in governmental decision-making; and
- Encourage the participation, cooperation, and coordination of the public, federal, state, local, interstate and regional agencies, and governments affecting the coastal zone.

Thirty-four coastal and Great Lakes states, territories and commonwealths have approved coastal management programs. Together, these programs provide for the protection and management of more than 99 percent of the nation's 95,331 miles of ocean and Great Lakes coastline. Of particular relevance to this hearing, state programs must meet a number of requirements, including a demonstrated capacity to protect natural resources, manage development to achieve quality coastal waters, and coordinate state and federal actions to support these objectives.

The CZM Program is in the process of implementing a national performance measurement system. We are currently in the final phase of implementation, and can point to some positive results relevant to this hearing. For example, preliminary results from the 2006 – 2007 period indicate that the CZM program:

- Restored 2,491 acres and created 88 acres of coastal habitat;
- Protected an additional 2,077 acres of habitat through acquisitions or easements;
- Supported over 4,300 volunteer monitoring events in coastal watersheds; and
- Assisted 258 coastal communities in developing or implementing improved policies and plans to reduce polluted runoff to coastal waters.

#### **Coastal and Estuarine Land Conservation Program**

The Coastal and Estuarine Land Conservation Program (CELCP) was created in 2002 for the purpose of protecting important coastal and estuarine areas that have significant conservation, recreation, ecological, historical, or aesthetic value, or that are threatened by conversion from their natural or recreational state to other uses. Congress directed the Secretary of Commerce to establish the program and to delineate criteria for awards under the program. In 2003, NOAA published the *CELCP Final Guidelines*, which set the framework for administration of the program. NOAA administers the program in accordance with these guidelines, including: working with states and territories to develop land conservation plans to guide selection of projects; administering the national competitive ranking and project selection process; and working with grant recipients to successfully complete projects.

Through CELCP, states and local communities purchase and protect coastal and estuarine lands for future generations. These projects often have strong community support, including local public and private financial contributions. CELCP helps states address the wide range of national objectives of the *Coastal Zone Management Act*, including:

- Protecting ecologically important coastal and estuarine habitats and species,
- Protecting natural beach and dune systems to reduce effects from erosion and storms,
- Controlling non-point source pollution, and
- Improving public access and recreational opportunities in coastal areas.

CELCP funds are distributed on a competitive basis and provide a means to leverage limited conservation dollars through matching contributions. As required by statute, federal funding under CELCP is matched 1:1 with non-federal funds. In a number of cases, local governments have also established stewardship agreements in partnership with non-governmental organizations, such as local land trusts, to help manage the properties for long-term protection.

To date, NOAA has worked with state and local governments to administer more than 150 CELCP grants in 27 coastal states to procure and protect more than 35,000 acres through land acquisitions or easements. Projects have ranged in size from a quarter of an acre to more than 10,000 acres, which included protecting small urban waterfront properties to large complexes of wetlands and forested uplands. In addition to habitat conservation, these projects have also been used to provide recreational access to the coast by the public.

#### **Community-based Restoration Program**

The NOAA Community-based Restoration Program began in 1996, under the authority of the *Fish and Wildlife Coordination Act*. The *Magnuson-Stevens Fishery Conservation and Management Reauthorization Act* of 2006 further codified the program's mandate to work with communities to conduct meaningful, on-the-ground restoration of marine, estuarine, and riparian habitat.

The Community-based Restoration Program provides technical and funding assistance to local, regional, and national partners to restore coastal and estuarine habitats and accomplish community-driven priorities. NOAA helps communities and partners design projects, ensure compliance with environmental requirements, and evaluate the success of restoration projects in their community. Restoration projects range from wetlands restoration to small dam removals, coral and oyster reef restoration, to the building and restoring of natural, living shorelines that help buffer coastal communities from erosion. In addition to the benefits to the coastal environment, the Community-based Restoration Program promotes environmental stewardship through hands-on participation and educational opportunities.

Since the Community-based Restoration Program began, it has:

- Restored more than 30,000 acres of habitat.
- Developed scores of national and regional partnerships, and collaborated with more than 1,500 organizations.
- Awarded \$50 million through a competitive review process, and generated an additional \$120 million in non-NOAA resources for projects in 26 states, Canada, the Caribbean, and the Pacific Islands.



- Included hundreds of communities and more than 130,000 volunteers in restoration efforts.

#### **Other NOAA Efforts**

Some of the nation's largest cities are located adjacent to estuaries and house some of the busiest commercial trade and shipping ports in the world. High traffic in these fragile areas increases the threat of oil spills, ship groundings, and exposure to hazardous substances. Through the Damage Assessment Remediation and Restoration Program, NOAA collaborates with other agencies, industry, and citizens to protect and restore coastal and marine resources injured by oil spills, hazardous substances, and vessel groundings. Proper restoration after injury requires the careful calculation of effects on fish, wildlife, and the places they live. By holding industry accountable for loss and injury, over time, NOAA ensures the full recovery of habitat health.

NOAA also works on coastal and estuarine habitat restoration and protection activities through the *National Fish Habitat Action Plan (Plan)*. The *Plan* provides a strategic focus on key fish habitats to ensure better investment of time, resources and funding. Through regional Fish Habitat Partnerships, federal and state agencies, conservation organizations, and private entities, use scientific assessments to determine where protection and restoration is most needed and most likely to benefit fish and their habitat, including estuaries. A key component of the *Plan* is identifying the causes of habitat loss and degradation, and taking action to correct problems rather than treating only the symptoms.

NOAA is also taking significant steps to support regional efforts to restore the nation's estuarine and coastal environment. In the Chesapeake Bay, NOAA supports the Chesapeake Bay Program, which uses an ecosystem approach to the protection, restoration, and management of the Bay's diverse resources. The West Coast Governors' Agreement on Ocean Health highlights the need for additional federal-state-local collaboration in Puget Sound and San Francisco and partners, in particular, have requested NOAA guidance on habitat conservation in these areas.

Another critical aspect of protecting our coasts and estuaries is the NOAA Fisheries Essential Fish Habitat Program, which identifies, describes, and protects habitats essential to federally managed fisheries. As noted, estuaries provide important spawning and rearing habitat for commercially and recreationally harvested fish. Under the *Magnuson-Stevens Fishery Conservation and Management Reauthorization Act*, NOAA consults with other federal agencies and provides them with technical recommendations to help them avoid and minimize adverse impacts to essential fish habitat. These consultation activities are a key component of NOAA's efforts to ensure that coastal development activities maintain the integrity of the coastal ecosystem.

NOAA also has a key role in the *Coastal Wetlands Planning, Protection and Restoration Act* (CWPPRA) which provides critical funding and technical support in the restoration, protection, conservation and enhancement of threatened wetlands in the Louisiana coastal zone. Under

CWPPRA, NOAA, as well as all other federal and state agencies, plan and implement large-scale coastal wetlands restoration projects which are significant on a local and national level. For NOAA and the state of Louisiana, CWPPRA provides the hope of sustaining a resource that is important to the local and national economic, recreational and cultural base.

Finally, the *Estuary Restoration Act (ERA)*, as modified in 2007 by the Water Resources Development Act, allows NOAA to collaborate and coordinate with other federal agencies, state and local governments, and the private sector to accomplish targeted estuarine habitat restoration. With the goal of restoring a million acres of estuarine habitat by 2010, representatives from NOAA, Department of the Interior, EPA, U.S. Department of Agriculture and U.S. Army work together to implement the *ERA*. The *ERA* also directs NOAA to develop and maintain a database of restoration projects, and establish standards for monitoring restoration projects. The database ([http://era.noaa.gov/htmls/era/era\\_nerd.html](http://era.noaa.gov/htmls/era/era_nerd.html)), called the National Estuaries Restoration Inventory, tracks estuary habitat restoration projects around the country. Under *ERA*, NOAA also works to outline monitoring protocols that serve as guidelines for evaluating the success of estuarine restoration projects in meeting proposed goals.

#### **NOAA's coordination with EPA's National Estuary Program**

The successes of NOAA's programs are built on the strength of its many national and regional partnerships. Several partners, including the EPA's National Estuary Program (NEP) and Restore America's Estuaries (RAE) are dedicated to restoration and conservation of estuarine habitats. NOAA's collaboration with RAE has resulted in the completion of more than 500 projects nationwide, resulting in more than 3,000 acres of estuarine habitats restored and 2,000 acres protected. NOAA's collaboration with the NEP includes educational activities for teachers and students, local coastal training programs, working with states coastal zone management plans, CELCP acquisitions that complement and support NEP goals and efforts, and a new community-based restoration partnership with the Association of National Estuary Programs. More details on the specifics of this partnership are highlighted below.

- At the national level, the NERRS program and the NEP have coordinated to produce Estuaries Live (E-Live), an interactive field trip to estuaries for students and teachers to learn about estuaries and ask questions in real-time. The program features a live web-cast of researchers and educators in estuaries explaining estuarine concepts and describing flora and fauna. The program draws 15,000 teachers and students participating and over 1 million viewers.
- As an example of state level coordination, the New Hampshire Coastal Zone Management Program, the Great Bay NERR and the New Hampshire SeaGrant program are partnering with the New Hampshire Estuaries Project and other organizations in the region that address nonpoint source pollution to form the National Resources Outreach Coalition (NROC). NROC provides directed technical assistance to local governments to manage growth pressures and reduce nonpoint source pollution impacts to New

Hampshire's estuarine and coastal environments through municipal land use planning, regulatory review and development, and education.

- NEP-designated estuary programs (NEPs) also play a role in NOAA's CELCP program. State CELCP plans, which are required for participation in the CELCP funding competition, often recognize NEPs among their partner organizations and/or reference NEP management plans in identifying priorities for protection. These CELCP plans are an integral part of the CELCP application process and form the basis of identifying priorities for protection. In many cases, NEP staff have also participated in development of the CELCP plan.
- CELCP acquisitions also complement and support NEP goals and efforts by providing direct and indirect benefits to lands and waters within designated NEPs. Past CELCP acquisitions have shared benefits with NEPs in eight states: New Jersey, Massachusetts, California, Rhode Island, New Hampshire, New York, Washington, and Oregon. For example, the acquisition through the CELCP program of 142 acres in Oregon around Tillamook Bay, which is also an NEP site, sought to protect and restore coastal wetlands, provide habitat for salmon and migratory birds, provide passive recreational opportunities to the public, and re-establish floodplain function in a watershed that had lost over 90 percent of its historic intertidal wetlands.
- In 2007, NOAA established a new Community-based Restoration Partnership with the Association of National Estuary Programs (ANEP). The partnership is working to fund, implement, and monitor restoration projects within watersheds of the 28 NEPs. The EPA is the federal administrator for the NEP, and has worked with each estuary program to develop Comprehensive Conservation and Management Plans, which are used to help identify and prioritize projects funded through the NOAA-ANEP partnership and many others. In fact, more than half of all Community-based Restoration Program projects are located in the NEPs. In the first year of the NOAA-ANEP partnership, projects were funded in Mobile Bay, Alabama; Narragansett Bay, Rhode Island; and Indian River Lagoon, Florida. These projects addressed restoration of oyster reefs and marsh habitats, improved fish passage, erosion control, and public education.

NOAA has a good working relationship with the NEP at both the national and local levels. NOAA will continue to collaborate with the NEPs to accomplish our collective goals related to protecting and restoration the Nation's coast and estuaries.

## CONCLUSION

NOAA will continue to meet our mission by managing, protecting, conserving, and restoring the nation's estuaries. These nurseries of life are vital habitats for the health and well-being of our coasts, and the peoples who depend upon them. Thank you again for the opportunity to highlight

the work that NOAA does to protect and sustain our nations estuaries and coasts. I will be glad to answer any questions.

**TESTIMONY OF**

**RON KREIZENBECK  
SENIOR ADVISOR  
PUGET SOUND PARTNERSHIP/  
U.S. ENVIRONMENTAL PROTECTION AGENCY**

**BEFORE THE**

**SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT  
OF THE  
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE  
UNITED STATES HOUSE OF REPRESENTATIVES**

**June 26, 2008**

Madam Chairwoman and Members of the Committee, I am Ron Kreizenbeck, Senior Advisor to the Puget Sound Partnership, on loan from the Environmental Protection Agency through the Intergovernmental Personnel Act (IPA). Today I hope to provide perspective based on my thirty years of senior management service with the EPA and from my current leadership role with the Puget Sound Partnership.

I wear two hats. Technically, I am an EPA employee but through an intergovernmental agreement I also now directly support the Puget Sound

Partnership. This dual role has heightened communication between the Partnership and EPA, and illustrates how absolutely critical it is to have effective communication and tight collaboration among the multiple levels of government involved in Puget Sound basin work.

**I am encouraged today by Congressman Dicks's recent introduction of the Puget Sound Recovery Act of 2008.** It would establish an EPA Puget Sound Program Office, whose director would coordinate the major functions of the federal government to implement the Puget Sound Action Agenda being developed by the Puget Sound Partnership. The Office would also coordinate efforts with other federal agencies with jurisdiction in the Puget Sound watershed. I hope every effort is made to move this important legislation forward.

In that spirit, I'd like to give you a sense of the work already being done by EPA in collaboration with the Partnership, Tribes, other federal agencies and with our Canadian colleagues.

**EPA is helping to achieve important environmental outcomes to protect this ecosystem.** EPA Region 10 has dedicated millions of dollars to Puget Sound recovery and we take our role in this effort very seriously. We will continue to carefully plan how each dollar is spent, ensuring that spending plans are tied to true environmental outcomes for the Puget Sound. EPA has

established productive and cooperative interagency agreements with state agencies, tribal governments and other federal agencies. Between 2000 and 2007 these cooperative efforts in Puget Sound have:

- Protected or restored almost 26,000 acres of wetlands, riparian and nearshore habitat;
- Cleaned up more than 200 acres of highly contaminated sediments from local bays;
- Initiated a dozen major watershed protection grants to local and tribal governments and NGO's to implement local plans that protect and restore water quality, shellfish beds and salmon runs.
- Developed effective strategies to reduce both toxic and nutrient pollution from entering Puget Sound in the first place.

**EPA is leading the effort to coordinate Federal agencies and programs within Puget Sound.** Federal agencies manage over 40% of the land in the Puget Sound basin. The U.S. Forest Service, the U.S Fish and Wildlife Service, the Bureau of Land Management, the Bureau of Reclamation and the Army Corps of Engineers share responsibility for this large Federal land base. Tribal reservation lands also assume a portion of the land base, where Federal agencies play a permitting, assistance and regulatory function.

EPA identified early on that it could play a vital role in coordinating the Federal

Agencies, and spearheaded the creation of the Puget Sound Federal Caucus. There are 12 Federal Agencies in the Caucus, and while the responsibilities and jurisdictions of these agencies differ, each agency manages lands or implements programs that have a direct relationship to the health of Puget Sound

The primary role of the Federal Caucus is to assist the Puget Sound Partnership in developing and implementing the Action Agenda. We try to align Federal planning with the work of the Partnership and are taking a leadership role in science, data and information management. We coordinate our input to the Action Agenda through the Caucus and share information on agency priorities and budgets so we can better understand what the Federal government can do and where some gaps may exist. The cross cut budget outlined in the draft legislation would take this concept and strengthen it considerably.

Specifically, the Caucus strives for an integrated, strengthened Federal response on water quality protection, salmon recovery needs, and local ecosystem protection by aligning both regulatory and non-regulatory programs to meet the objectives of the Action Agenda.

**EPA is also working collaboratively and successfully with our Canadian colleagues on protecting the ecosystem.** Residents of the Puget Sound/ Georgia Basin region share a common airshed, common watersheds, a common flyway for migratory birds and habitat for anadromous fish and marine mammals



and common concerns over urban growth pressures. The U.S. and Canadian governments have a unique responsibility to address the transboundary environmental challenges confronting the future of this common ecosystem.

Regionally, Environment Canada and the U.S. EPA - Region 10 have a long standing and successful relationship that was formalized in 2000 with the Joint Statement of Cooperation on the Georgia Basin and Puget Sound Ecosystem, signed by the Administrator of the Environmental Protection Agency and the Minister of Environment Canada. Work under this agreement includes collaborations with Washington State agencies, BC Ministries and Tribal Nations on both sides of the border.

I have two excellent examples of the international and federal/state collaboration that has emerged through our work with Environment Canada. One is the shared hosting of the Puget Sound/Georgia Basin Ecosystem Research Conference that we have convened every other year since 1998.

The other example is the collaborative development and publishing of ecosystem indicators that are understandable and accessible by the public for the Puget Sound/Georgia Basin (<http://epa.gov/region10/psqb/indicators/>).

**While these and other efforts by EPA in Puget Sound have certainly helped, as Bill Ruckelshaus said earlier, we have come to realize that our current efforts are not sufficient. A federal office of Puget Sound would allow these**

**current collaborations and commitments to flourish and strengthen.** An interagency office would enhance communication, streamline expenditures, and ensure coordination and alignment of federal, state and Tribal actions and programs.

Last year the Federal Caucus sent an interagency team to visit some of the other ecosystem restoration programs. We also interviewed federal agencies, Tribes, state agencies and non-profits working in Puget Sound and reviewed recent studies and reports on ecosystem restoration. All this to answer a simple question – How can the Federal government improve on what we are currently doing? Our answers support the concepts included in the draft bill, more specifically:

- The need for intense collaboration and commitment among the federal agencies to achieving specific environmental outcomes.
- The primary mission and purpose of the Office should be to assist the Puget Sound Partnership to refine and implement the Action Agenda.
- The federal agencies should take a leadership role to build a strong science foundation and integrate ecosystem data and information.
- The office should focus on coordinating those federal programs where centralized coordination will provide demonstrable benefits. Some examples for Puget Sound are grant funding, Clean Water Act, Endangered Species Act and large scale estuary restoration.

- Work with Tribal governments to assure the Action Agenda reflects our Treaty Trust obligations
- Continue to work with Canada on transboundary issues
- Link the work in Puget Sound to work around the country on other Great Waterbodies.

In addition, a Federal Office could strategically plan, award, coordinate, track and map federal grants and contract funding to Puget Sound recovery and protection. The various federal agencies provide significant amounts of financial assistance all over Puget Sound through grants and contract funds. Currently, these grants and contracts are awarded on a project-by-project basis with little coordination or agreement on the best strategic use of these funds, or leveraging of each others efforts. Further, there is no way to track and map the location and purpose of these federal funds. For example, EPA, NOAA and USFWS have each provided significant grant funds for work within the Skagit watershed without being able to know whether our efforts are conflicting, complementary or redundant. In concert with the Partnership, an interagency federal office could strategically plan and target funding to support and implement the Action Agenda by collaborating on developing Request for Proposals for grant funds and on the review and ranking of proposals. A federal interagency office could also develop a database and GIS layers for tracking, monitoring and reporting on location, implementation and effectiveness of federal grants and contract funding throughout Puget Sound.

Finally, the Federal Office could assist with building local capacity to Action Areas. The Puget Sound Partnership will not meet its goal of recovery of Puget Sound by 2020 without strong and capable actions by local and Tribal governments. Their capacity to bring tools and information to bear on land use planning and decisions are critical for success in the face of rapid growth and development around Puget Sound. In a recent assessment by EPA on how it and other federal agencies can assist local and tribal governments deal with the environmental impacts of growth, we learned that EPA could provide needed assistance by creating some type of "Smart Growth" center or network for Puget Sound that would provide a forum for Puget Sound local and Tribal land use planners and decision makers to share tools, information, data and solutions. An interagency federal office could spearhead or seed such a forum by providing financial and technical assistance.

In summary, I believe a Federal Office could take what we have started with the Federal Caucus, improve it and establish a long term federal commitment to work with the state on this critical undertaking. Thank for your time today and for your continued support. I am happy to answer any questions you might have.

TESTIMONY

*Presented to*

Subcommittee on Water Resources  
Transportation and Infrastructure Committee  
United States House of Representatives

*Submitted by*

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June 26, 2008

Chairwoman Johnson, Ranking Member Boozman and members of the Subcommittee:

My name is Richard Ribb, and I am the Director of the Narragansett Bay Estuary Program. I am here today representing the Association of National Estuary Programs. On behalf of the Association, I would like to express my appreciation to Chairwoman Johnson and Ranking Member Boozman as well to the other Subcommittee members for this opportunity to talk about the work of the National Estuary Program

The urgency of restoring and protecting our coasts and estuaries has never been greater. Estuaries provide a wide range of services of local and national importance. These include commercial and recreational fishing, transportation, defense, boating, research and learning, and providing irreplaceable wildlife and fisheries habitat. At this time over 50% of the U.S. population lives in coastal areas – putting pressure on the critical ecological and economic resources in our estuaries.

**Purpose of the National Estuary Program**

We appreciate the continued support of members of Congress for the National Estuary Program (NEP). This national network of coastal watershed partnerships has been at the forefront of ecosystem protection and restoration for over 20 years. Ringing the United States coastline from Puget Sound to Casco Bay, the NEPs were created by Congress through a far-sighted piece of legislation under Section 320 of the Clean Water Act. The legislation required that each NEP be organized under and guided by an inclusive stakeholder-based management structure with the purpose of protecting and restoring estuaries around the nation that are important for their economic, environmental and cultural resources.

Together the 28 NEP watersheds include more than 42 percent of the continental U.S. shoreline. Fifteen percent of all Americans live within NEP-designated watersheds; a group that contains some of the most densely populated areas in the country. Estuaries provide habitat for more than 75% of America's commercial fish catch, and 80-90% of the recreational fish catch. Estuarine-dependent fisheries are among the most valuable, with an estimated worth of \$1.9 billion nationwide.

With strong Congressional support, the National Estuary Program has been a front line response to the pressures on our coastal ecosystems. This program represents a successful non-regulatory approach to defining and addressing the problems in our estuaries. Citizens, municipalities, environmental groups and interested business and industry organizations are brought together with State and Federal governments to reach agreement on long-term management plans called Comprehensive Conservation and Management Plans or CCMPs. These community-based plans seek to guarantee the economic and biological productivity of the nation's estuaries into the future.

The NEP is a broad-based program, taking a comprehensive approach to addressing the wide range of problems facing the Nation's estuaries: preventing habitat degradation and loss of recreational and commercial fisheries; protecting and improving water quality; pioneering watershed management techniques; controlling sewage outfalls and septic system impacts; mitigating impacts from increasing land development; developing strategies to deal with invasive species and harmful algal blooms - the list goes on and reflects the inter-related nature of these problems and the community-based nature of the NEP approach.

The NEP process, built upon local roots but connected to state and federal resources, has been widely recognized as an effective method for meeting local and regional needs. In fact, the recently released U.S. Commission on Ocean Policy preliminary report recognizes the importance of the National Estuary Program and specifically notes that "the NEP concentrates on bringing together stakeholders in particular areas that are in or approaching a crisis situation. The assessment and planning process used by the National Estuary Program holds promise for the future of ecosystem-based management." And the Administration has noted that "the NEP is EPA's flagship watershed protection effort. The NEP provides inclusive, community-based planning and action at the watershed level and has an established record of improvements to ecosystem conditions."

Citizens see these programs (and their staffs) as a part of a governmental structure that uses resources efficiently, is responsive to their needs, and is effective in solving problems and raising issues and awareness. NEPs have been particularly effective in identifying and funneling relevant resources (grants, technical assistance, etc.) to states, communities and citizens' groups.

Through its now 21 years of experience, the National Estuary Program has served as an effective and adaptive model for developing solutions to complex environmental problems. The NEP has been the laboratory and testing ground for the watershed management techniques now being applied across the country and it continues to introduce innovative technologies and adaptive approaches to estuary problems.

#### **How the NEP works:**

A key strength of the National Estuary Program is the collaborative, non-regulatory approach employed that has been proven to be successful in restoring the nation's estuaries. Listed below are aspects of the NEP that make it a unique and effective program:

- The NEP is unique in that it expressly requires a stakeholder-based approach;
- CCMPs are the collective stakeholder vision and set of solutions for the estuary and its watershed;
- The NEP collaborative model provides an ability to significantly leverage federal investments;

- NEPs identify emerging estuary issues and work to increase the scientific understanding of key issues that affect our coastlines including climate change/sea level rise, nutrient over-enrichment, shoreline development, harmful algae blooms, fish and shellfish diseases, and invasive species;
- NEPs work to ensure that management decisions are based on good science - NEP scientific work supports federal, state and local regulatory work in many cases (TMDLs, wetlands protection, stormwater Phase II, atmospheric deposition, etc.);
- NEPs convene people, funding and science around key estuary issues and provide a neutral forum for discussing issues;
- NEPs continually seek to create meaningful opportunities for public involvement in environmental decision-making and in positive environmental actions that build stewardship;
- NEPs are community-based networks – well-integrated into local priority-setting and action implementation. They have built trust and strong working relationships with a variety of partners.

#### **Is the NEP Effective? A History of Environmental Results**

Are the NEPs effective? We think you have the evidence, 21 years of evidence and 28 examples, assuring you that your investment, on behalf of the citizens of this country, is cleaning our nation's waters and restoring habitat that has been degraded and destroyed in the past.

Collectively, the 28 programs have restored over 1,100,000 acres of habitat since 2000. And there are many individual success stories from across the programs.

From Casco Bay, Maine where reducing bacteria contamination has resulted in opening thousands of acres of formerly closed shellfish beds to  
 Narragansett Bay, Rhode Island where the NEP brought federal, state, and local partners together to restore a 40-acre wetland creating a shellfish nursery where fisheries had been decimated by thermal impacts of a power plant which revamped its system and built a closed cooling system  
 Sarasota Bay, Florida which has reduced nitrogen loading inputs by fifty percent reduction since 1988 and the manufacture and deployment of over 5,000 artificial reef modules to  
 Galveston Bay, Texas where over 4,500 acres of wetland habitats were restored, protected, and created through public-private partnership efforts between 1995 and 2000 to  
 Morro Bay, California and the purchase and creation of the Chorro Creek Ecological Reserve – providing a 580-acre property that reopens miles of freshwater wetlands restoring flood protection.

As one example, the Lower Columbia River Estuary Program recently received \$1.5 million from the Bonneville hydroelectric power facility to develop and implement salmon restoration projects in that estuary. In my home state of Rhode Island, the NEP has been instrumental in bringing to life and managing major coastal restoration projects, convincing the State to invest \$600,000 in a key restoration project this year. The Tampa Bay Program was a key force in securing millions of local and state dollars for wastewater treatment to reduce the high levels of nutrients that were harming Tampa Bay. The Long Island Sound Program has created one of the few successful and effective pollutant trading programs in the nation and helped secure state bond funds that will help pay the estimated \$8 billion dollar cost of treatment plant upgrades for Long Island Sound.

#### **Environmental Improvement:**

**Tillamook Bay NEP – Oregon**

The Tillamook Bay Estuary Partnership worked with a local dairy cooperative to halt the discharge of dairy processing effluent into the Wilson River which had been causing bacterial contamination. Now, the bacteria levels in that river have seen a steady decline.

**Sarasota Bay NEP – Florida**

To enhance local marine fisheries, the Sarasota Bay NEP worked with a coalition of interests including fishing associations to place over 5,000 artificial reef modules in key areas.

**Barataria-Terrebonne NEP – Louisiana**

Louisiana has lost tremendous amounts of land and wetlands to subsidence. The Barataria-Terrebonne NEP and partners are using clean dredged materials to rebuild a 2.25 mile long coastal ridge and wetland complex with a total of 120 acres being restored. Not only will this project provide increased habitat value, it is part of an ongoing vision to recreate coastal ridges that provide significant storm surge protection.

**Buzzards Bay NEP – Massachusetts**

The Buzzards Bay NEP has a long history of supporting local protection and restoration efforts through grants to municipal partners. With last year's increase in NEP funding, the BBEP made \$104,000 available to fund municipal restoration, stormwater abatement, wetlands and infrastructure projects.

**Support and Resources: Return on Investment**

Because the NEPs are collaborations of many partners, we have leveraged your investment well beyond the 1:1 requirement. Nationally, we are leveraging the investment of federal dollars at an average ratio of 11:1. This investment of partners' dollars shows a very real commitment by thousands of local partners in every NEP.

Here are a few examples of local funding support:

**Tampa Bay NEP – Florida**

In Tampa Bay, the Tampa Bay NEP has had a long track record of environmental success and has built strong local support. One example of that support is the fact that, through a local intergovernmental agreement, the program receives over \$400,000 annually to support CCMP implementation.

**Narragansett Bay NEP – Rhode Island/Massachusetts**

As the home to many rivers whose water power fueled the Industrial Revolution, the Narragansett Bay watershed also inherited the ecologically damaging legacy of the era – many dammed rivers that prevent fish passage. The Narragansett Bay NEP worked with local and state officials to build support for state funding of coastal habitat projects. In 2003, the state created a coastal habitat restoration fund which has supported dozens of key projects since that time. The NEP also has catalyzed support for major restoration projects with federal partners like the Army Corps and the USDA Natural Resources Conservation Service – state capital funding over the last 5 years for these major projects totals over \$800,000.

**San Juan NEP – Puerto Rico**



With many challenges to face, the San Juan NEP has worked to build strong local support. The most recent evidence of that is the passage of a bill by the Puerto Rico House of Representatives that would provide direct dedicated local funding to the program for CCMP implementation. The bill now awaits passage by the P.R. Senate.

#### **Reauthorization of the National Estuary Program**

In discussions on how a reauthorized National Estuary Program might be shaped, NEP staff and stakeholders have identified a few key items that would strengthen CCMP implementation and increase collaboration in our estuaries.

- Specifically recognize the National Estuary Programs as ecosystem-based management programs. The specific charge for the NEPs in the Clean Water Act is use a holistic ecosystem approach to advance the protection and restoration of the chemical, physical and biological integrity of the 28 designated estuaries.
- Retain the stakeholder-based non-regulatory nature of the program. This fundamental feature of the program has allowed it to function as a neutral forum and a mechanism to convene all partners in environmental actions.
- Ensure that Section 320 funding is directed to the on-the-ground locally-based Estuary programs. Results measured annually for the Government Performance and Review Act are keyed to local watershed results. Enhanced capacity for the local NEPs by better targeting Section 320 funding means more results across the board to report through GPRA.
- Ensure that federal agencies that have protection and restoration responsibilities at the regional, state and local level more effectively coordinate with local priorities and programs like the NEP. When these federal agencies are creating their annual workplans, they should incorporate needs and priorities identified at the local and state level. A tremendous amount of work has gone into gaining consensus on local priorities; let's make sure we make the best use of this work.

We thank the Committee members for providing us the opportunity to share our views with you. We are glad to be part of the Congress' efforts to achieve progress on coastal resource protection and restoration. I would be glad to answer any questions you may have, and again thank you for the opportunity to testify before you today.

TESTIMONY

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Environment and Water Resources Subcommittee  
of the  
Transportation and Infrastructure Committee  
U.S. House of Representatives  
June 26, 2008

Dear Chairwoman Johnson, Ranking member Boozman and other members of the subcommittee.

I am William Ruckelshaus, and I serve as the chair of the Leadership Council of the Puget Sound Partnership. The Leadership Council consists of myself and six other citizens appointed by Washington Governor Christine Gregoire. The Puget Sound Partnership is a new state-created effort of citizens, governments, tribes, scientists and businesses working in collaboration to bring Puget Sound back to health.

Thank you for the opportunity to discuss our approach with you, and the critically important legislation to compliment this effort recently introduced by Congressman Norm Dicks: The Puget Sound Recovery Act. This legislation would have the effect of mobilizing the federal government as a full partner in efforts to restore and protect Puget Sound, which is the ecological and economic engine of our region. It is clear that if we are to succeed in resuscitating this beautiful and complex water body it will require the concerted participation of our citizens, all sectors of society and all levels of government, including the Federal Government.

The Partnership is in the process of developing a coordinated, statutorily mandated Action Agenda to recover the Sound by 2020. The goal is to have one prioritized plan of attack for our federal, state, local and non-profit partners based on the best science available. Our charge from Governor Gregoire and the State Legislature is to look at the whole picture, not just the

parts, and employ an eco-system based approach to restoring Puget Sound, from the crests of the Olympic and Cascade Mountains to the marine waters of the inland sea.

The Puget Sound Recovery Act of 2008 would provide us with a major tool to help accomplish our ambitious Action Agenda. It would do this by establishing an EPA Puget Sound Program Office, whose director would coordinate the major functions of the federal government related to the implementation of the comprehensive Puget Sound Action Agenda being developed by the state Puget Sound Partnership.

This office would work with the Fish and Wildlife Service, the Park Service, NOAA, The United States Geological Survey, The Army Corps of Engineers and other federal agencies to implement and fund elements of the Action Agenda including water quality improvements, wetland and estuary restoration, endangered species recovery, and the research and studies necessary to support these actions.

Significantly this legislation would also require the President to submit a crosscutting budget that would highlight for each federal agency the amount of funding obligated and proposed for restoring and protecting Puget Sound.

The approach we have taken does not put the Federal government in charge of this effort. Instead the relationship we are already forging with federal agencies, and which The Puget Sound Recovery Act would codify, will encourage full federal participation in implementing an action agenda which they, along with the state, local governments, fishers, farmers, businesses, environmental and other citizen groups helped to craft.

Let me give you some background and context for how we arrived where we are, and why it is crucial to have the Federal Government invested in the success of this initiative.

In the late 1990's the National Oceanic and Atmospheric Administration (NOAA) listed Chinook salmon in Puget Sound as threatened under the Endangered Species Act. NOAA also listed another species of salmon for a smaller area within the Sound. The economic ramifications of this listing caused an enormous amount of concern and uncertainty in the region.

As it relates to Pacific salmon, humans have intercepted its life's journey through increasingly effective fishing techniques and technology. At certain times, we have attempted to replace the wild fish with artificially grown hatchery fish. (There are still over 50 hatcheries in Puget Sound.) We have battered, destroyed and permanently altered much of the fish's habitat, all to the point, that some salmon species are utterly dependent on the human species for survival. We got the fish in the mess they are in now and according to the Endangered Species Act it's up to our presumably larger brains to get them out.

In any event, these Chinook salmon swim through every major geographic area of the Sound from urban Seattle/Tacoma/Everett, to agriculturally dominated rivers, to relatively pristine, lightly populated areas of the Olympic Peninsula. Under the Act, any taking, broadly defined, of the fish by anyone was prohibited without a permit and any action taken by, or needing approval of the Federal Government was heavily regulated.

The Endangered Species Act mandates the federal government to prepare a recovery plan. Under that same statute, a recovery plan is rarely attempted because it usually involves the Feds telling local landowners how they can use their land. Roughly, the equivalent of telling my grandchildren to lay off the cookies.

We decided to take a different course. Collectively, we seized on the requirement for a recovery plan as a way to provide a goal for all of us to pursue. We broke Puget Sound down into 14 watersheds and engaged local government leaders, fishers, businessmen, environmentalists and citizens from all walks of life. Watershed councils were formed where they did not exist. These watershed groups are inclusive of all the interests in their area. All watersheds were given very ambitious fish goals (14,000 thousand spawners for the Skagit River for instance) and if all these fish roll up into big enough numbers and they begin to show up as a result of the actions committed to by the people of Puget Sound, it will allow a delisting of the fish.

The political momentum from this regional effort provided the fuel for a comprehensive initiative to restore the Sound. Each watershed was asked to submit chapters for the Sound-wide plan. The resulting Recovery Plan was approved by NOAA in December of 2006. This effort has formed the basis for the next step. With the active leadership of Governor Gregoire the Puget

Sound Partnership was formed, and we are now attempting to address the needs not only of endangered fish, but of the *ecosystem* that sustains them.

In effect, this is a massive experiment involving a vast geographic area. We are attempting to use democratic means to achieve a societal end: a healthy ecosystem that sustains fish, wildlife and humans.

Two elements are crucial to remember. First, we need the Federal Government at the table and helping in the development of the plan. This is why the Puget Sound Recovery Act is crucial. EPA and the other federal agencies are not following their usual mantra of "You tell us what you want to do and we'll tell you whether you can do it." A prescription for nothing happening. Instead, the Feds are in the boat and rowing.

Secondly, the plans and commitments necessary to implement the action plan must be made by the people who will be most impacted by their implementation. Their involvement is voluntary and collaborative and enormous progress is already being made. People who would normally see one another only in Court are sitting down across the table and harmonizing their interests in a way that four years ago would have seemed like an unnatural act.

When people come to realize that the watersheds they are improving are their place, where they and their children live, they get serious about the watersheds' health.

The democratic process we are following has changed the dynamic from a landowner standing on the bank of his river, going through his land and shaking his fist at the government to lowering his fist looking at his feet and asking himself the question, "What can I do to make the use of this water work for me, my neighbors and the fish and wildlife who share it?" Once that question is asked, real progress begins.

When the Legislature created the Puget Sound Partnership, they created a lean agency designed to promote the best efforts of individuals and communities and to get the best environmental value for every dollar spent. Our key strategies are collaboration, accountability, and basing all of our decisions on the best science and information available.

Puget Sound is a national treasure, boasting 2,500 miles of shoreline, 14 major rivers, and thousands of streams. Literally hundreds of species of wildlife and marine life call it home. Its health is key to our region's quality of life, economy and the legacy we leave future generations.

The region is also home to over 100 cities, twelve counties, and 19 Native American Tribal Nations. In all, over 4 million people consider Puget Sound home and we are all, to one extent or another, preparing to welcome an estimated 1.5 million more people by 2020. Our population growth rate is nearly twice the national average.

The news regarding Puget Sound is not all bad. Most industrial wastewater discharge permits are in compliance. We've expanded and improved sanitary sewer systems and treatment plants. We've reduced the use of fertilizers, pesticides and herbicides that make their way into Puget Sound. Tremendous efforts, by thousands of people, have improved the shoreline and near-shore habitat to benefit fish, birds and animals.

Still this is not enough. Despite the effort that we continue to make and the best intentions of our citizenry, NOAA recently listed Orca whales as endangered. Shellfish beds are closed because their bounties aren't safe to eat. Beaches are closed because they aren't safe for swimming. The list of threatened and endangered Puget Sound species is long, and without action, will continue to grow.

But our ultimate challenge is figuring out a way to effectively accommodate the 1.5 million people coming – by addressing stormwater runoff, maintaining working forests and farms, recovering habitat and developing differently – or we will lose our chance to save Puget Sound.

To accomplish something as monumental as restoring the health of a place like Puget Sound, the planets need to align. An opportunity like this happens only rarely, and that opportunity is upon us. Our governor, Legislature and Congressional delegation have made Puget Sound a top priority.

The Puget Sound Recovery Act will position and empower the Federal Government to join and augment the monumental collaborative efforts underway in the region:

- **Complexity of Regulatory Requirements.** The waters of the Puget Sound region are protected by the Clean Water Act, the Coastal Zone Management Act, the Endangered Species Act and other critical federal environmental regulations. The responsibility for ensuring implementation of these important laws falls to virtually every level of government in the region. Those who are building the houses and businesses that are in demand to accommodate the people who want to live in the region are faced with a tangle of regulatory requirements that makes building anything more expensive and complex than it needs to be. The system is broken. The people of the region have known it for a long time. The governor and the state legislature have recognized it through the creation of the Puget Sound Partnership. A Puget Sound Program office will enable federal agencies to fully and effectively participate in the partnership to restore Puget Sound.
  
- **Importance of Collaboration with Tribal Nations.** The 19 federally recognized Tribal Nations that are located on the shores and rivers of Puget Sound depend on and have treaty rights to the bounty of the waters for food and material necessities, livelihood, and cultural and spiritual sustenance. Appropriately, these Tribal Nations are co-managers of the fish and shellfish that they have depended on for thousands of years. The federal government plays an important role in ensuring that treaty obligations with these tribes are met. However, meeting these obligations requires the coordinated efforts of a multitude of federal and state entities. All efforts to improve coordination at the federal level will be greatly beneficial to meeting treaty obligations.
  
- **Western Gateway to Asian and Other World Markets.** Puget Sound is a major US terminus of the superhighway to China and the rest of the world markets that provision the nation. Ports are an economic powerhouse in Washington State supporting one in four jobs in the state economy. The busiest ports are located in Puget Sound which provides natural deep water harbors capable of handling the largest ocean-going vessels. In addition, thousands of tourists board cruise ships on Puget Sound every year headed for Alaska and other destinations. Functional, competitive ports depend on efficient movement of freight, an ample workforce, and modern infrastructure. All of this depends on the ability of the region to come to agreement on technology and infrastructure that meets the needs of the ports while at the same time protecting Puget

Sound and the health and well-being of residents. The federal government plays multiple important roles in this arena... a role that would most effectively be performed from an EPA Puget Sound Program Office.

- **Roads and Transit.** Roads are at once vital to creating healthy communities in Puget Sound and are one of the leading contributors to water pollution. The federal government provides a significant amount of funding to improve and expand highways and transit in the region. This funding helps ensure that the state economy remains healthy and that cities are able to accommodate all of the people who want to live in our beautiful region. The federal government also plays an important role in ensuring that new federally-funded transportation infrastructure does not further degrade the quality of the fresh and salt waters of the Puget Sound region. An EPA Puget Sound Program Office would provide the coordination necessary to ensure that federal dollars are being used to for maximum possible benefit to communities and the environment.
  
- **Air Quality.** The National Park Service in February of this year released the results of a six-year study regarding water pollution in national parks from airborne contaminants. Snow and water in high alpine lakes in both Mt. Rainier and Olympic National Parks had some of the highest concentrations of mercury and agricultural pesticides than any other parks in the nation. In some cases, fish in these lakes had such high levels of contamination that they were unfit for human consumption. If airborne deposition of pollution is a problem in our alpine lakes and snowfields, it is certain to be a problem in all areas of the Puget Sound watershed. An EPA Puget Sound Office would help focus agency and state attention on this problem,

We are in a unique position. If we get this right, Puget Sound could be a national – even international – model for successful large-scale restoration projects.

We are on track to be just that.



With increased help from the EPA, I have all the more faith that we can be the program that others look to for hope and for expertise.

Thank you for your time. I would be happy to answer any questions or provide additional information at this time.